

FIG. 1A

Point-to-Point

Prior Art

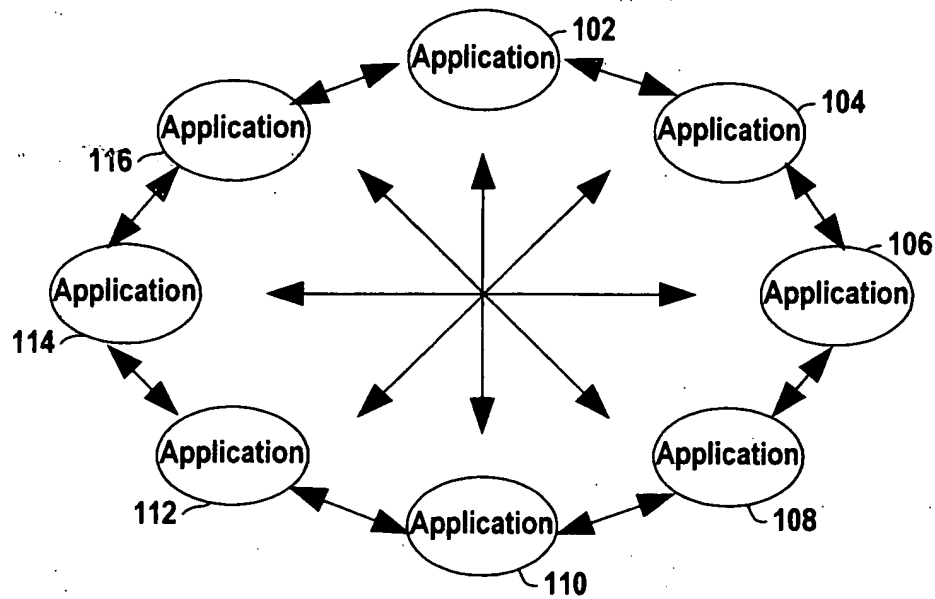


FIG. 1B

Hub and Spoke

Prior Art

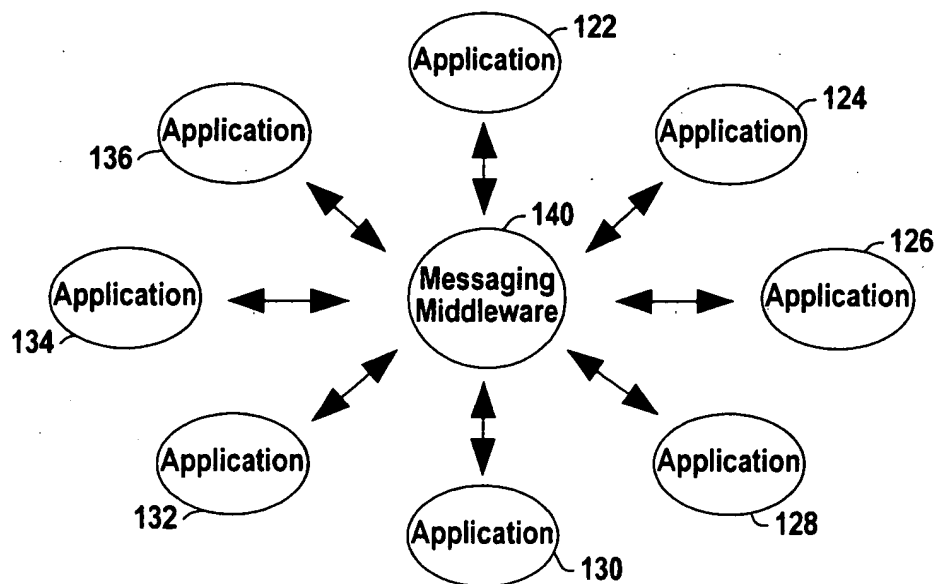


FIG. 2

Stovepipe Applications Levels to Layers

Prior Art

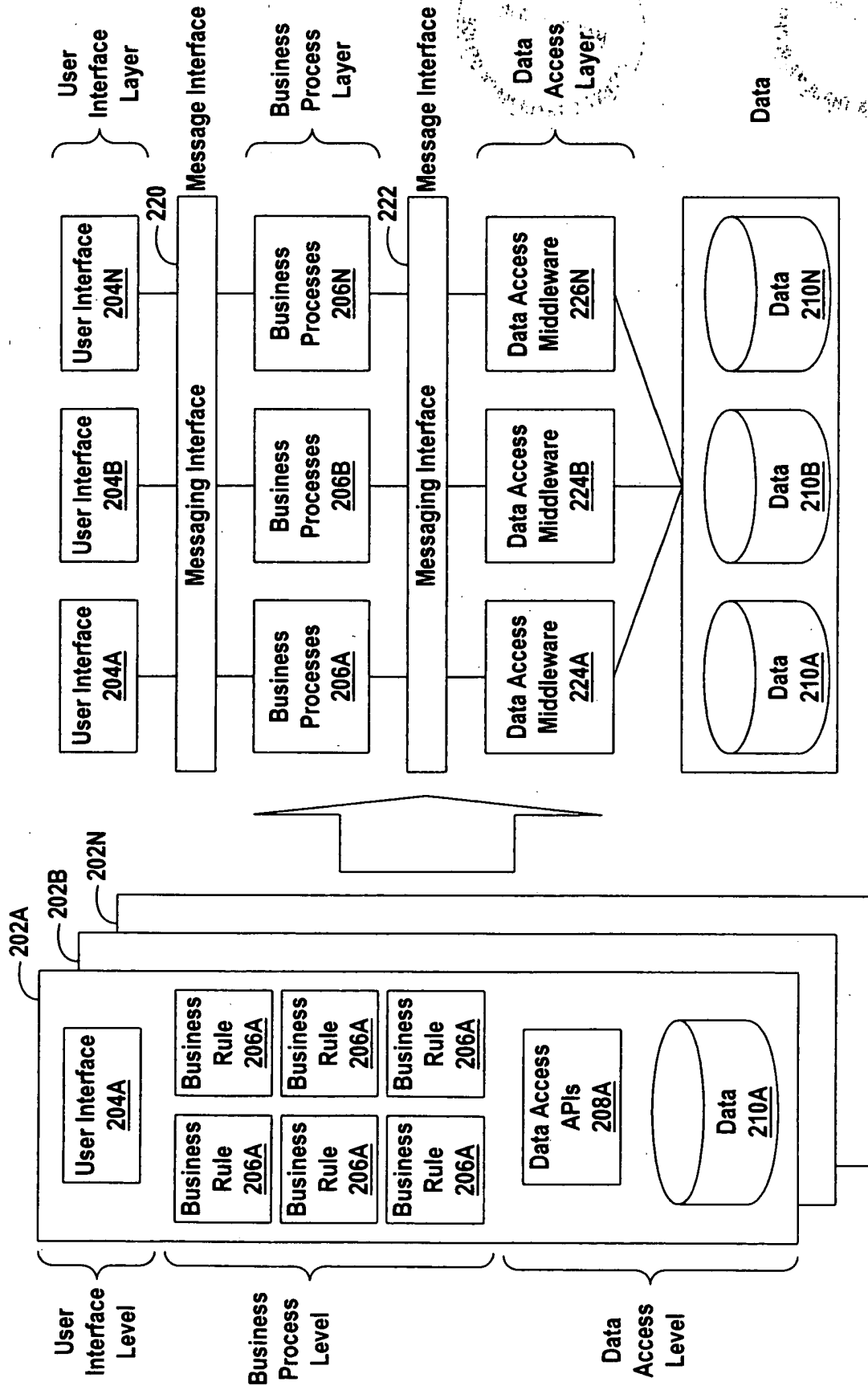


FIG. 3

Corba Service Object Lookup Prior Art

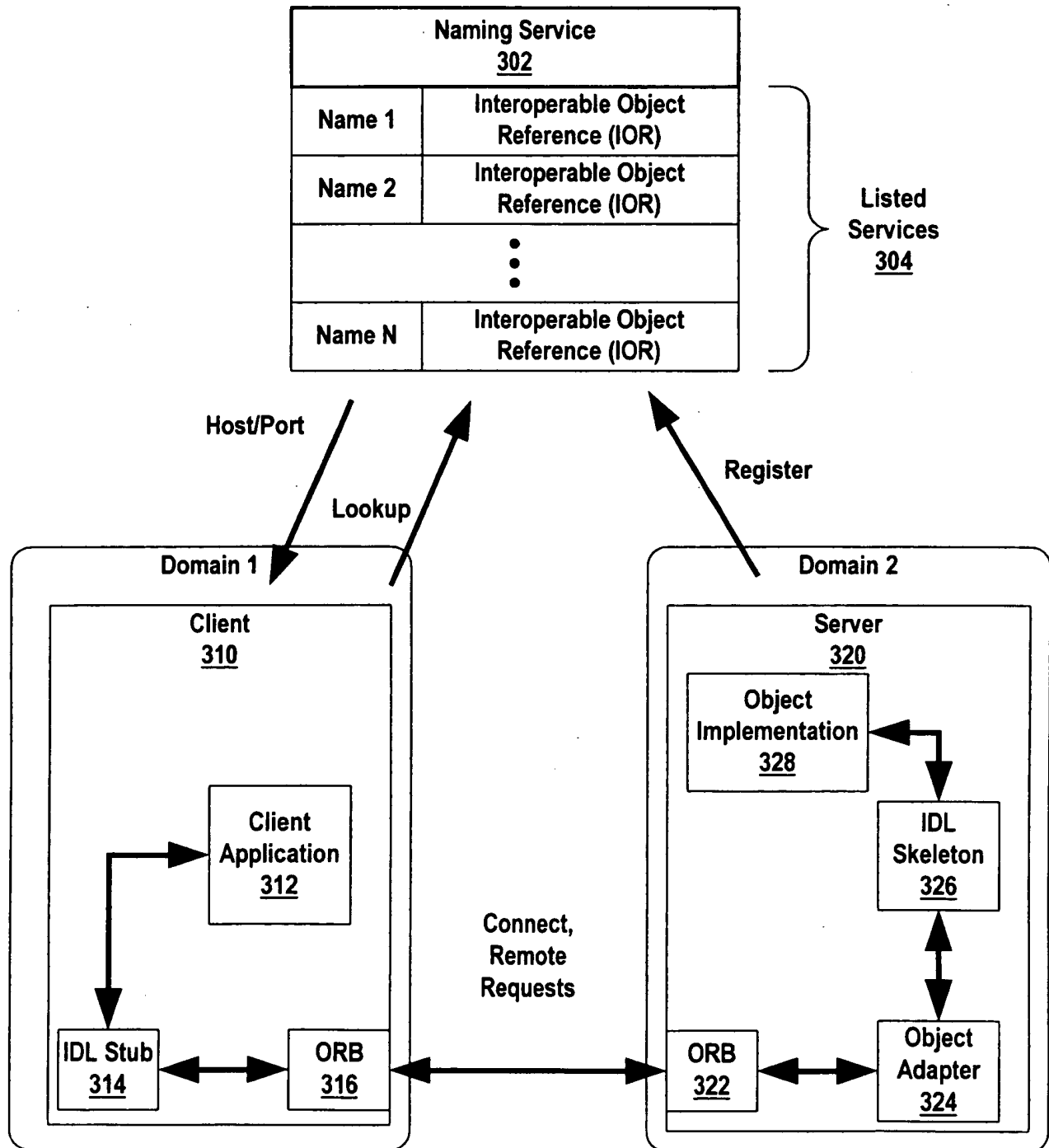


FIG. 4

Independent Systems' Stovepipe Relationships

Prior Art

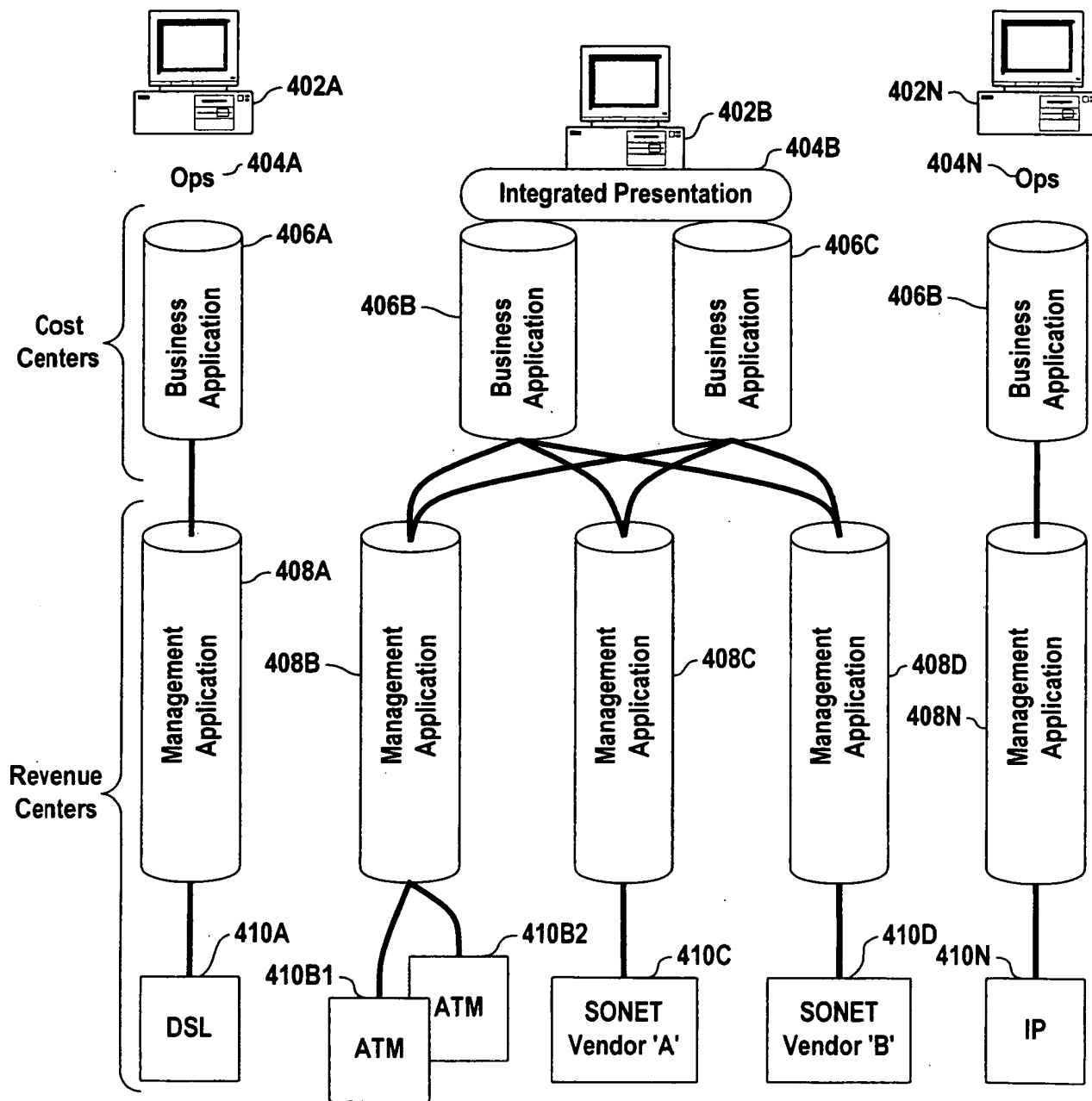


FIG. 5

NewWave Concept

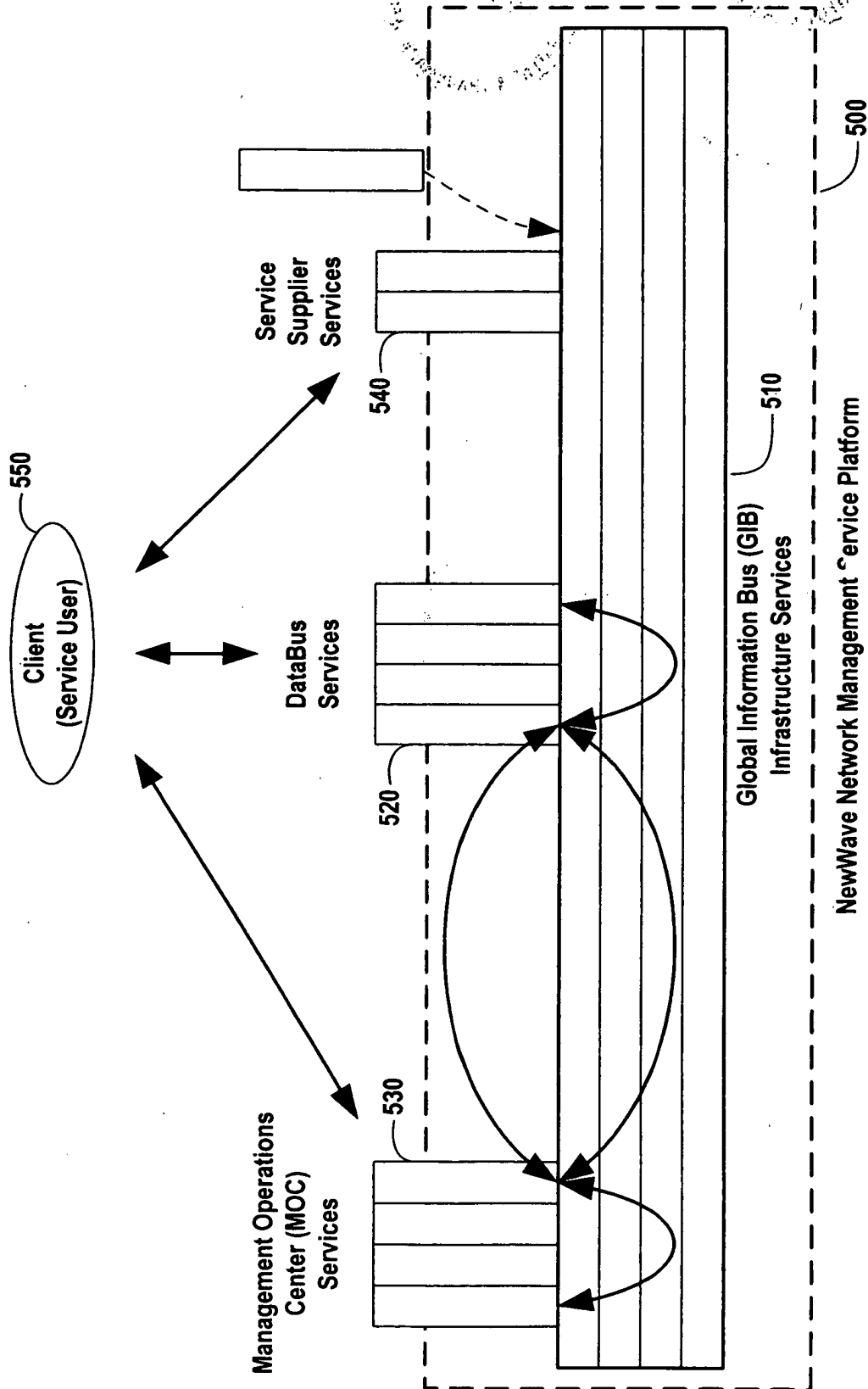


FIG. 6

NewWave Physical Environment

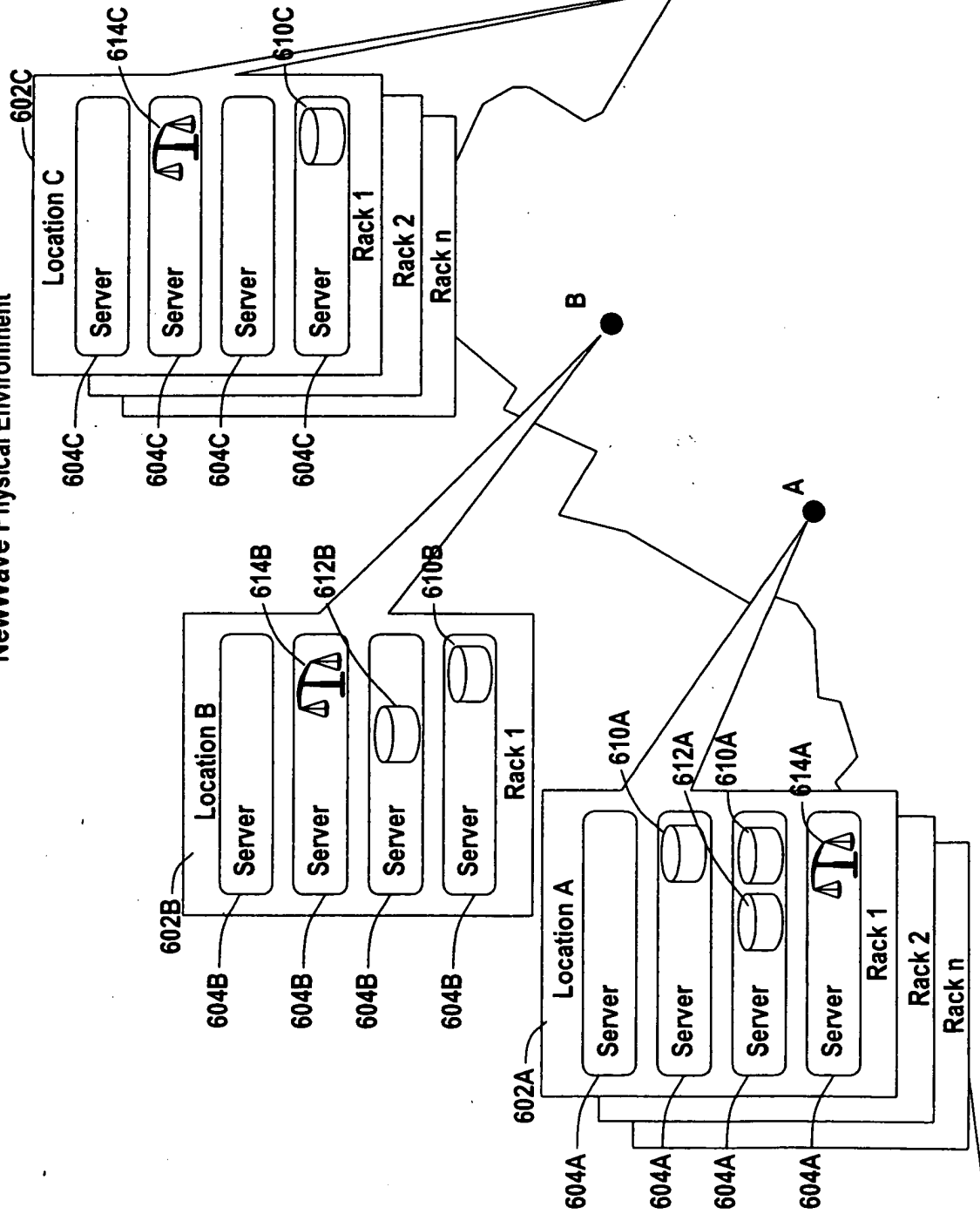


FIG 7

NewWave Operating Environment
VM Containers Deployed on Servers

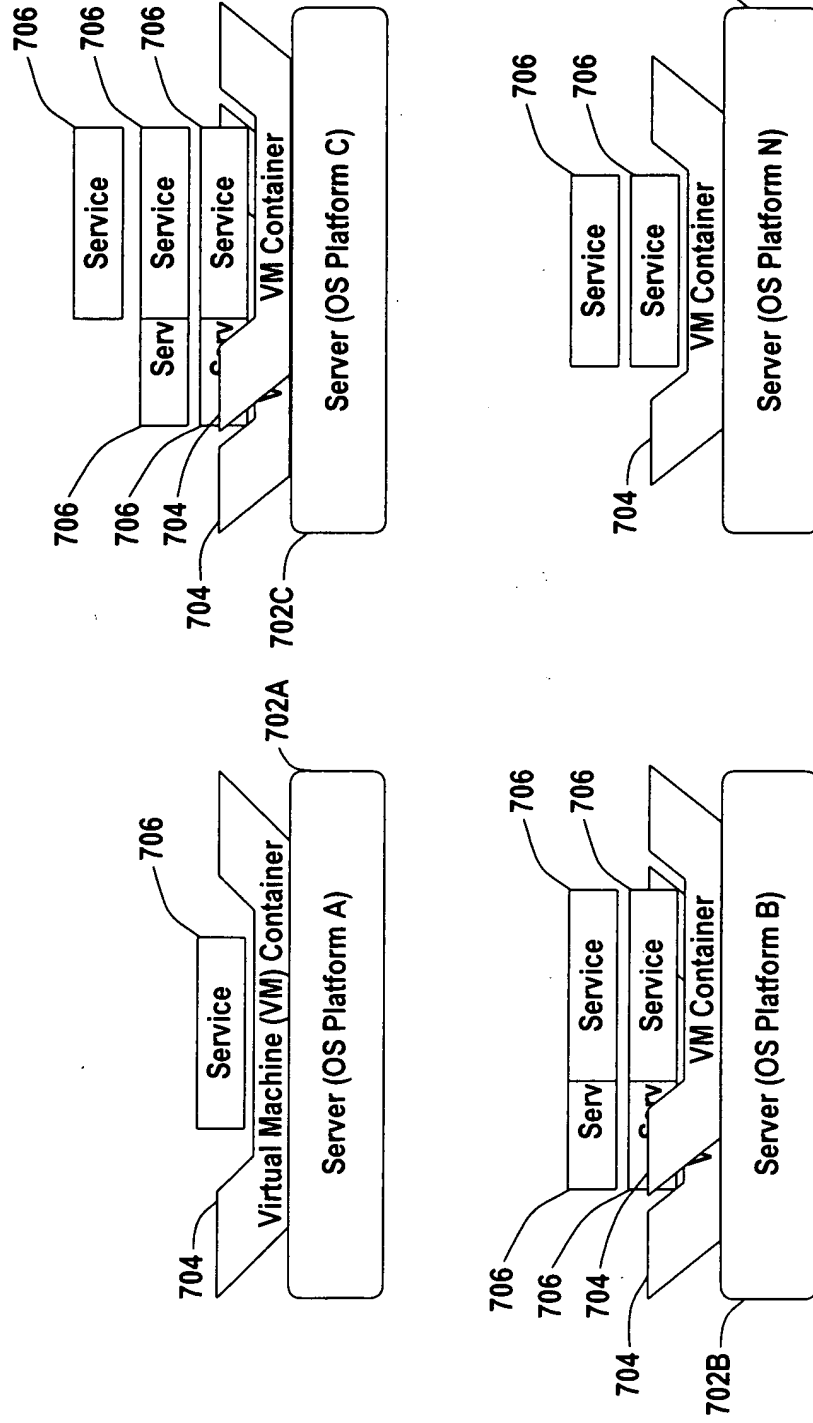


FIG. 8

NewWave Distributed Concepts

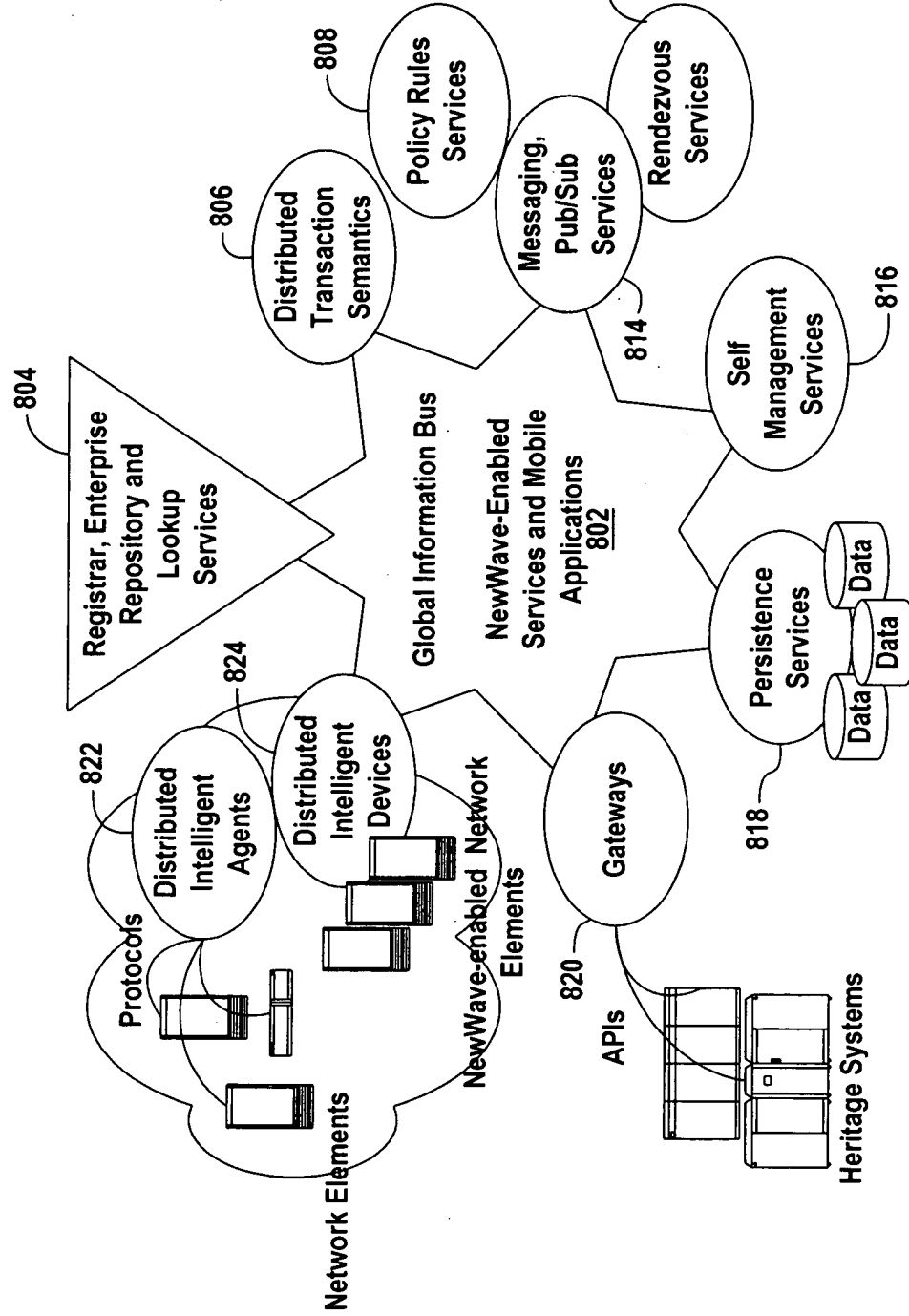


FIG. 9

New Wave Service Platform Infrastructure

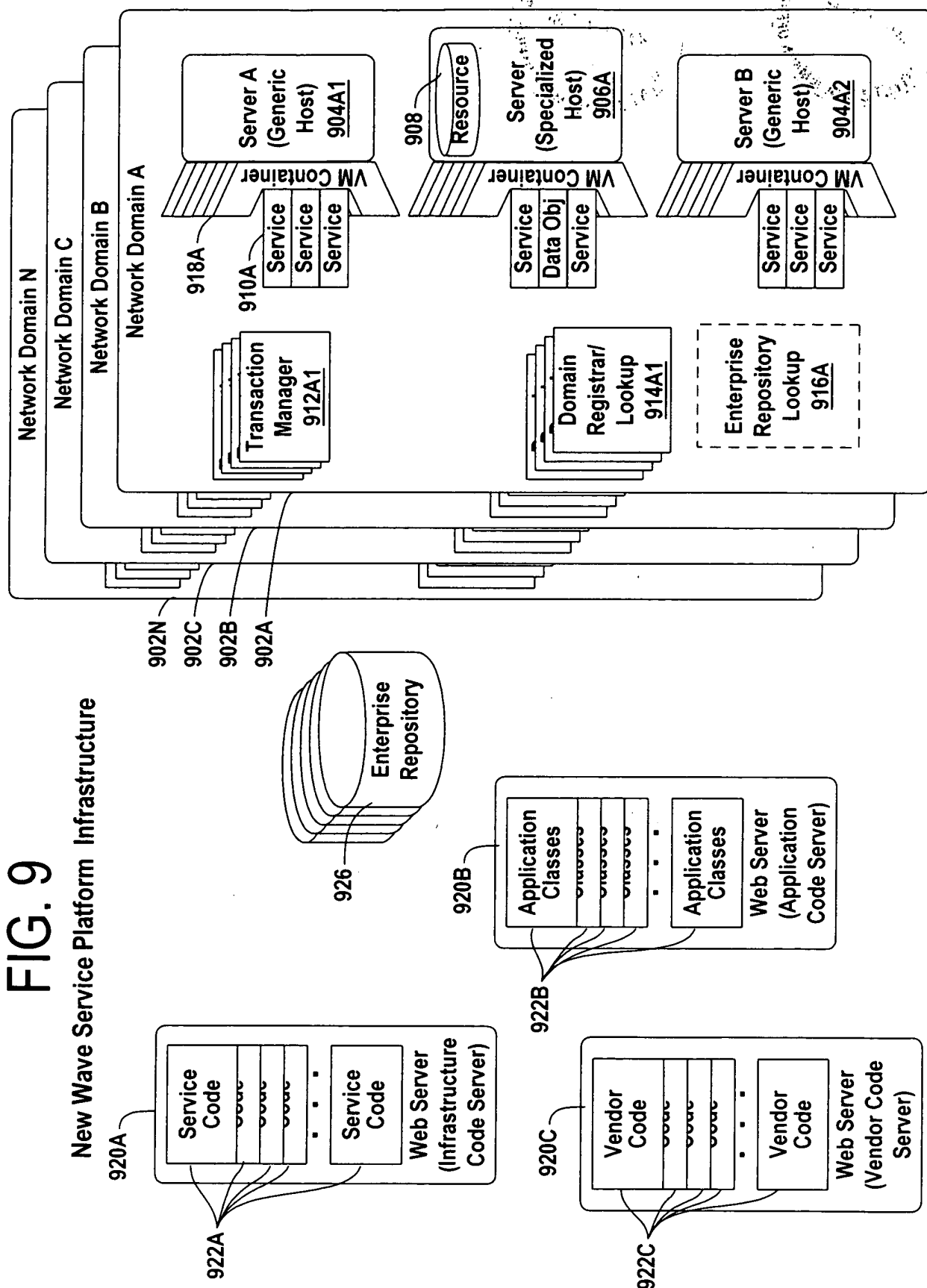


FIG. 10A

NW Service Launch and Registration in
Local Domain and Enterprise

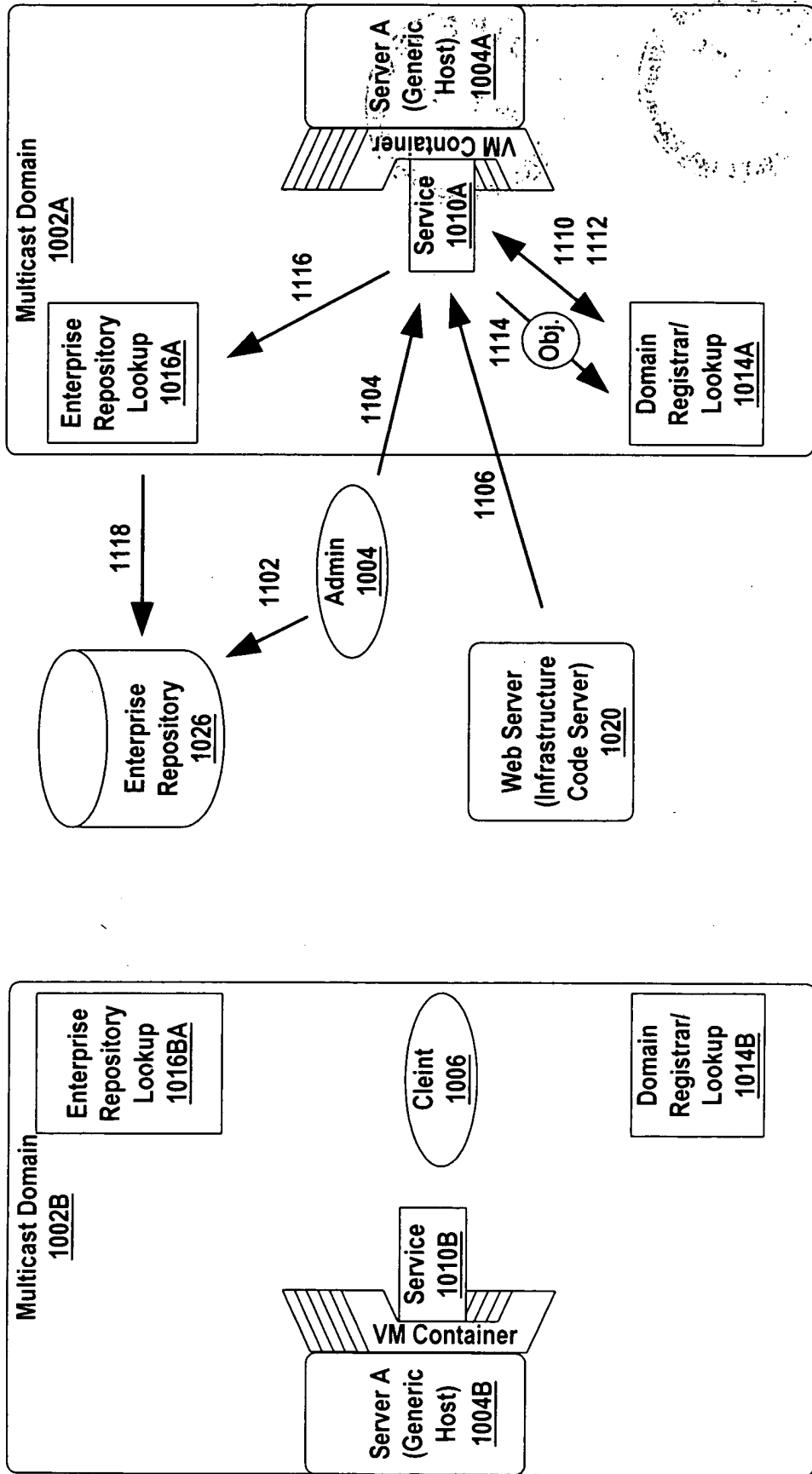


FIG. 10B

Local Domain Level Lookup

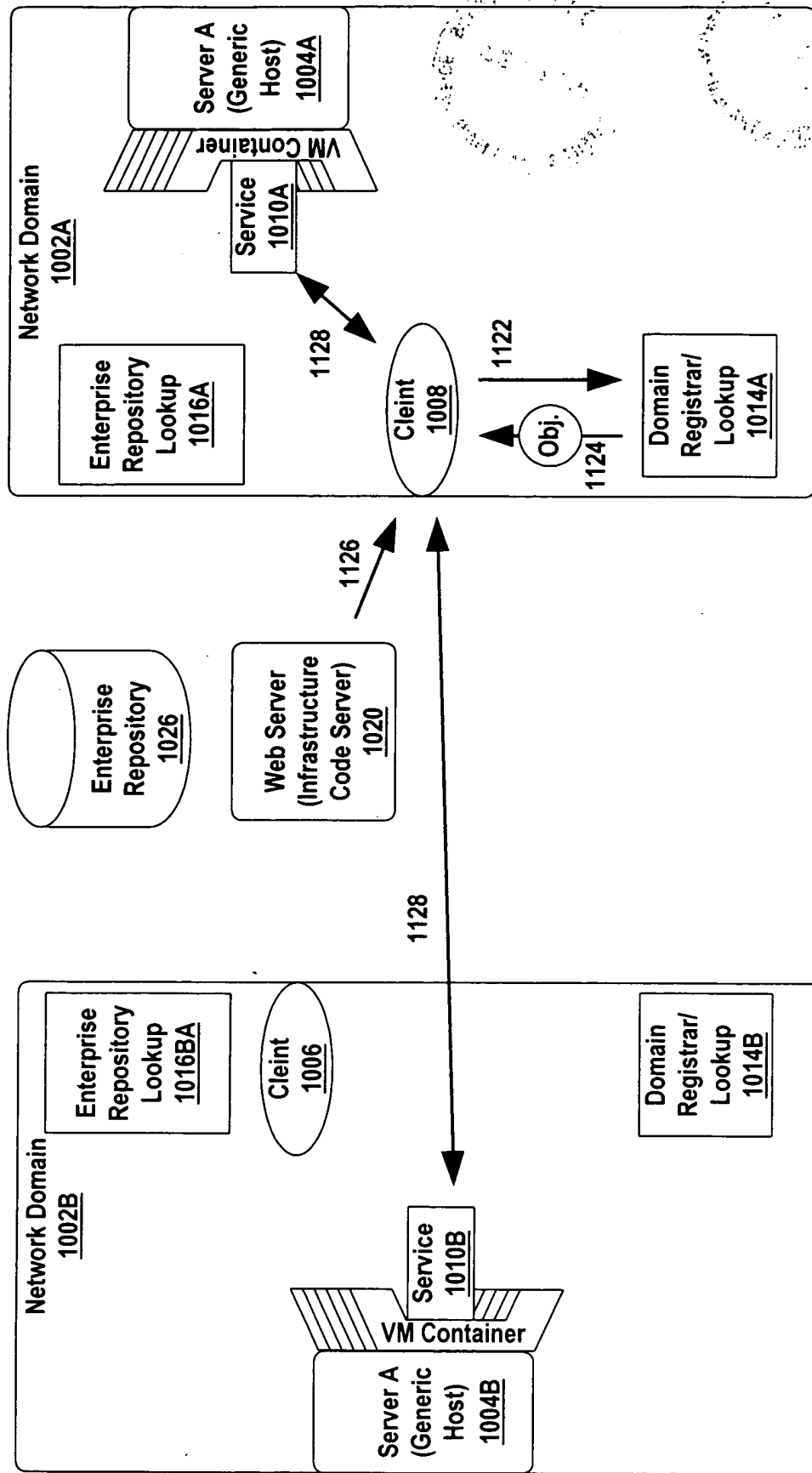


FIG. 10C

NW Service Registration in Enterprise and
Non-Local Find

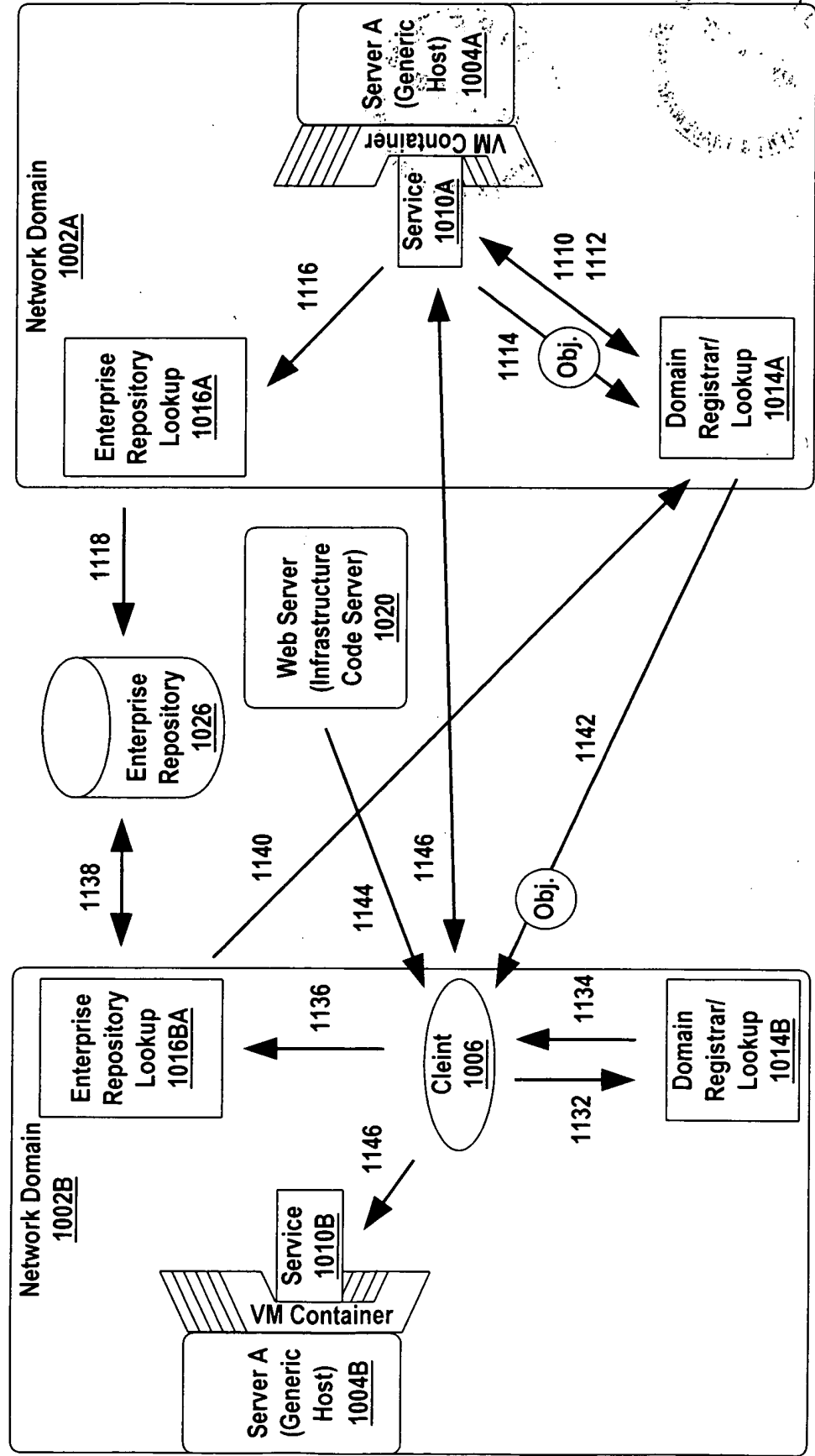


FIG 11A

NW Service Launch and Registration in Local Domain and Enterprise

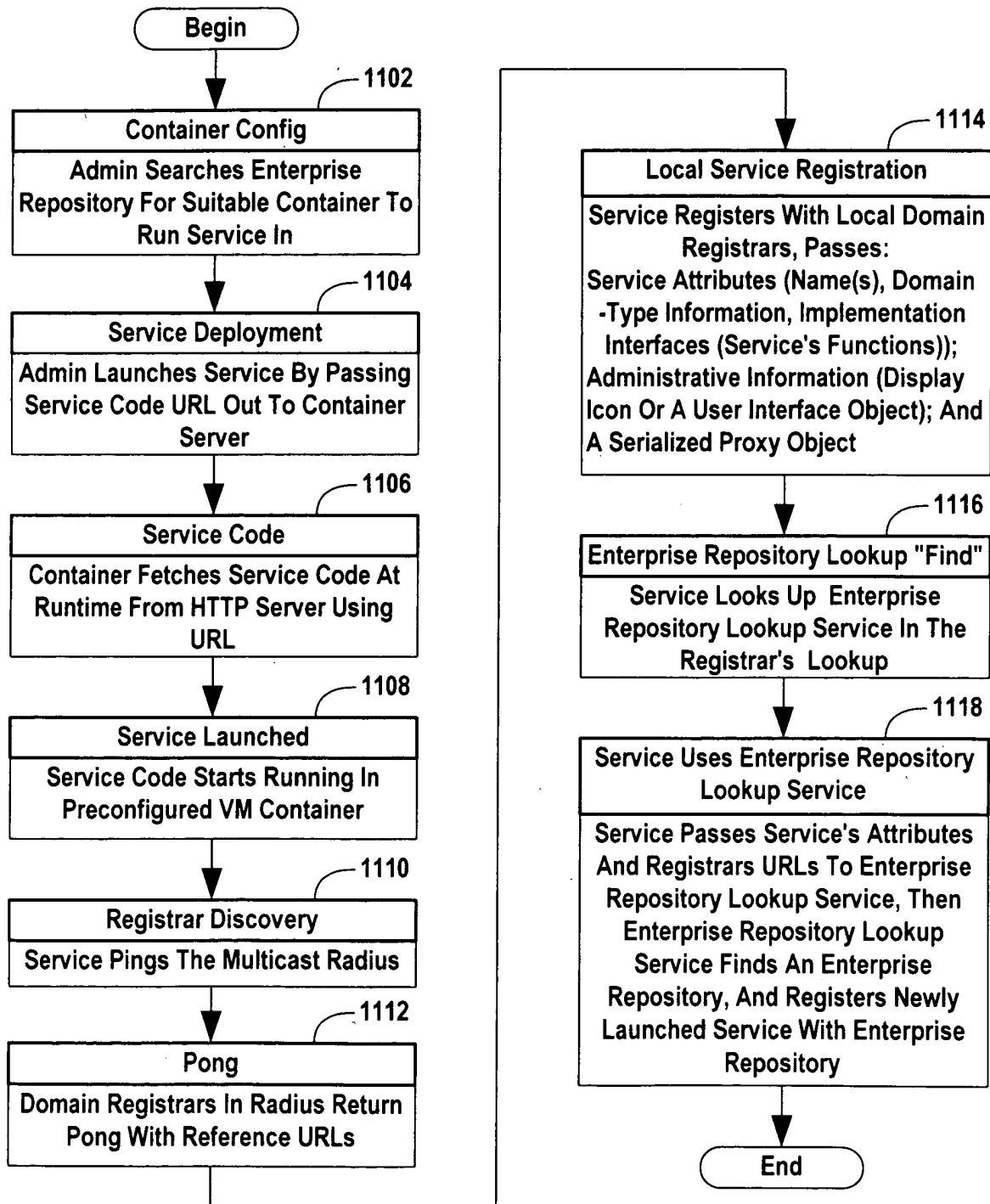


FIG 11B

Local Find

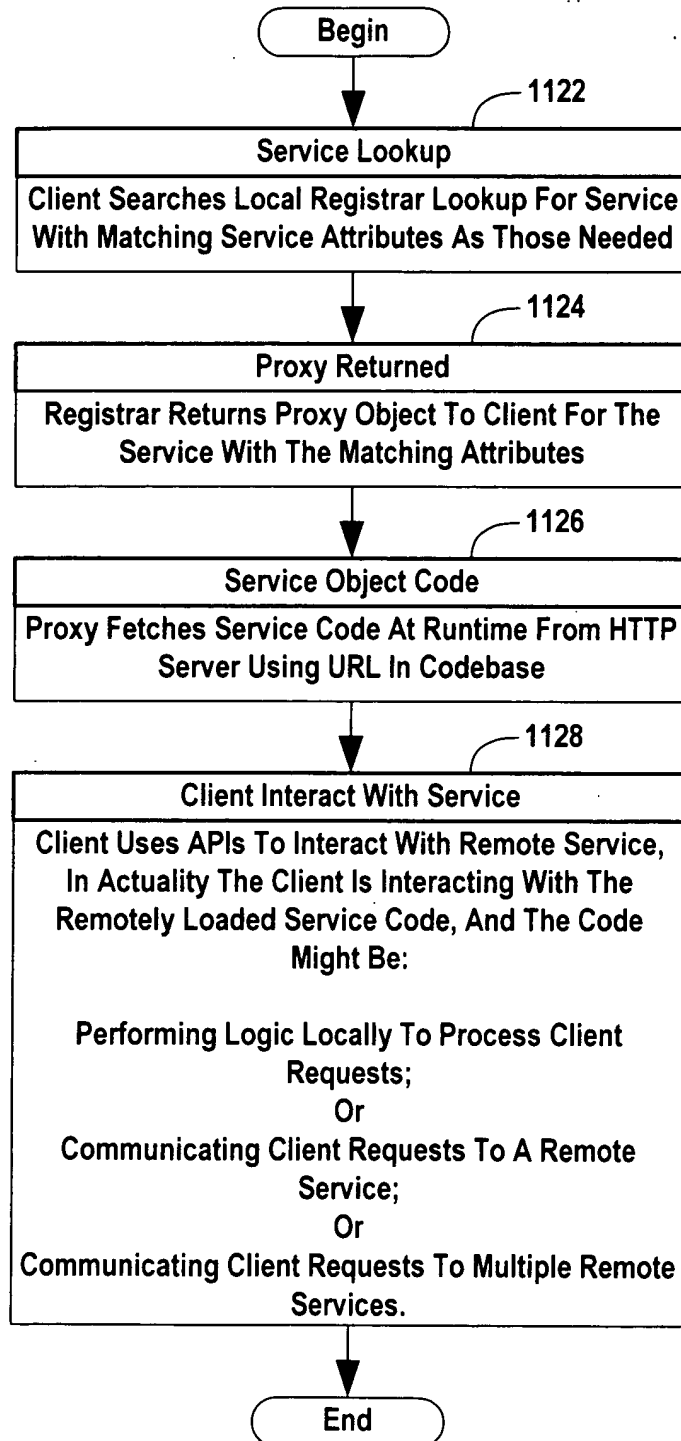


FIG 11C

Enterprise Level Lookup

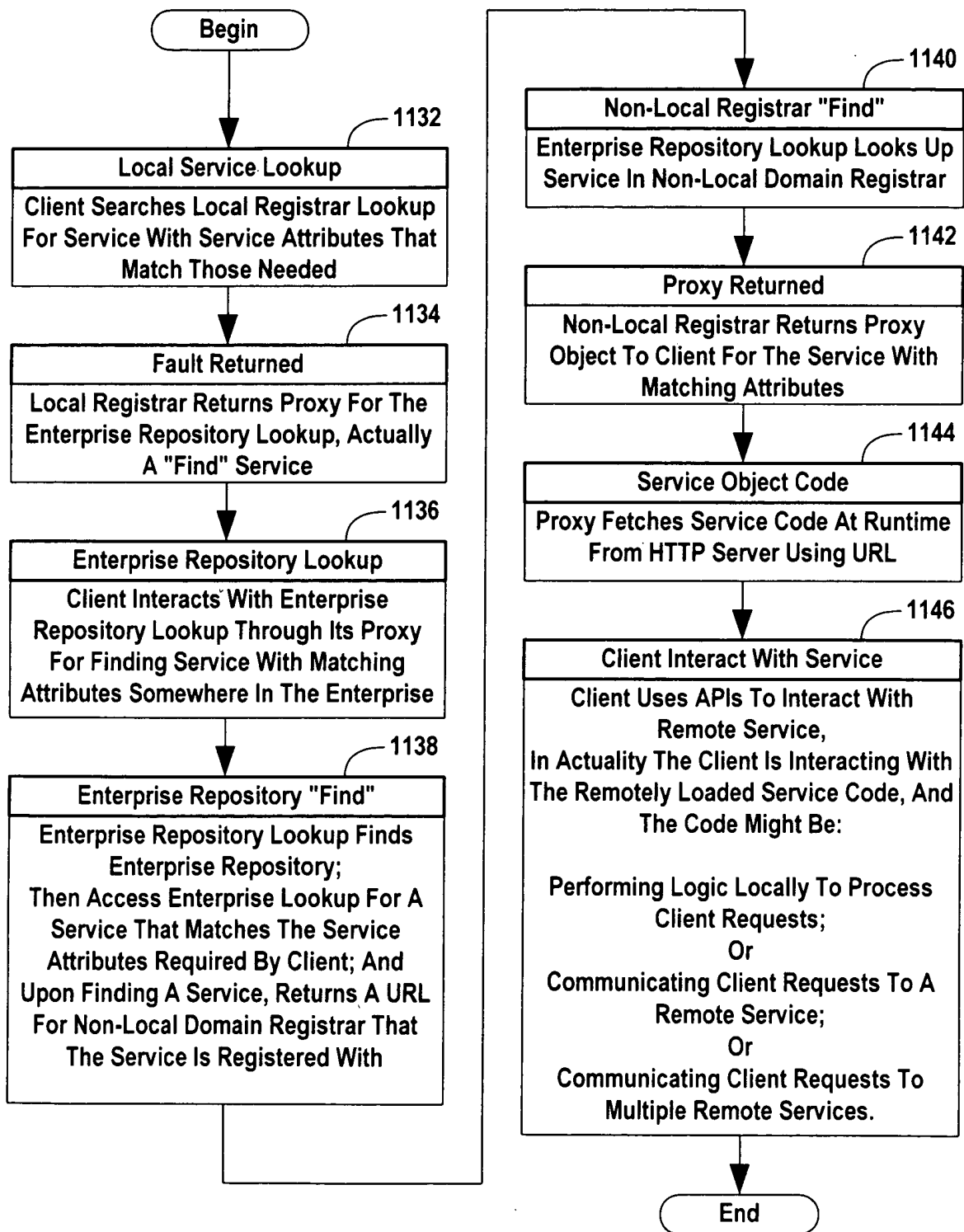


FIG 12A

Service Registration by Registrar

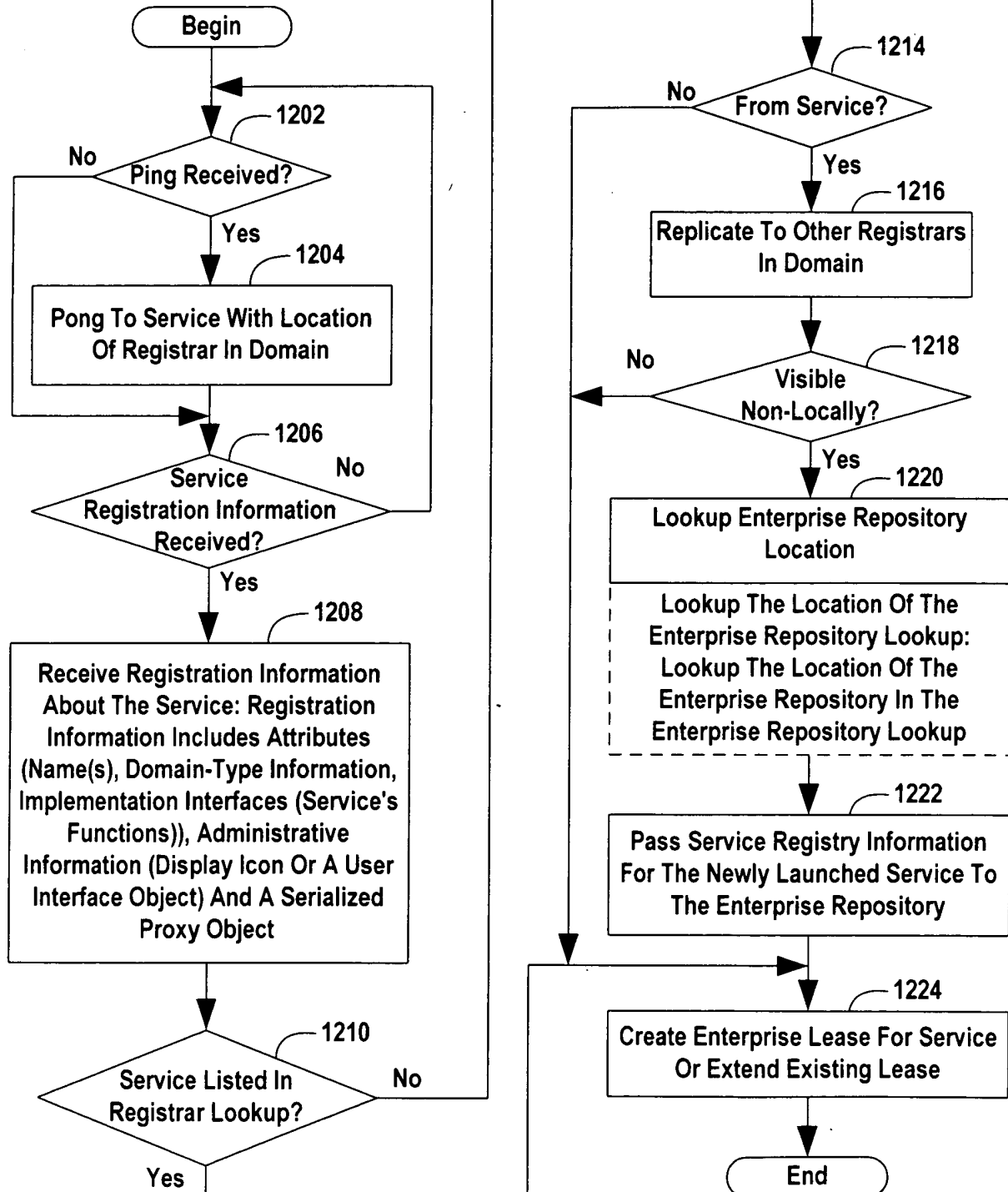


FIG 12B

Enterprise Leasing through Registrar

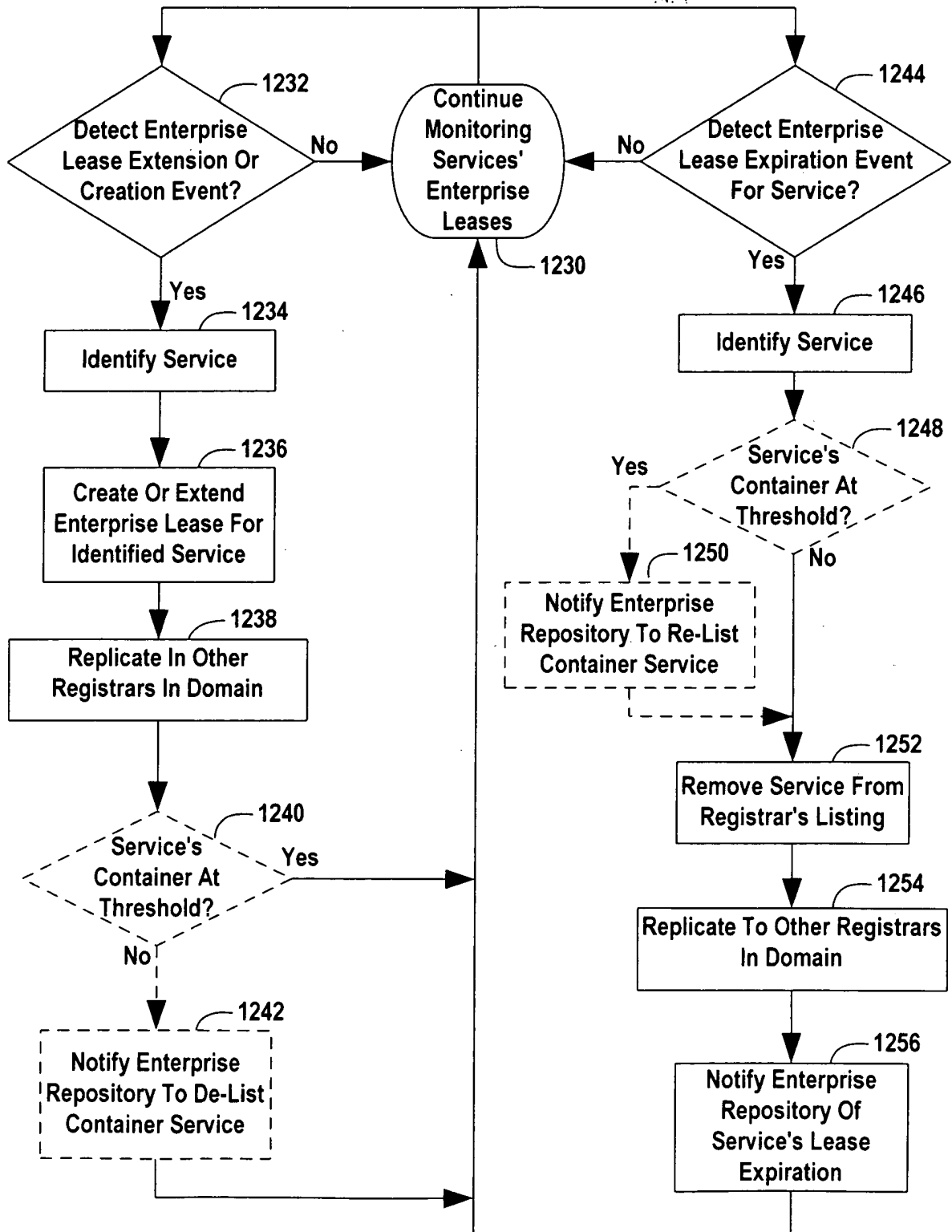


FIG 12C
Registrar "Finding" Service
for Client

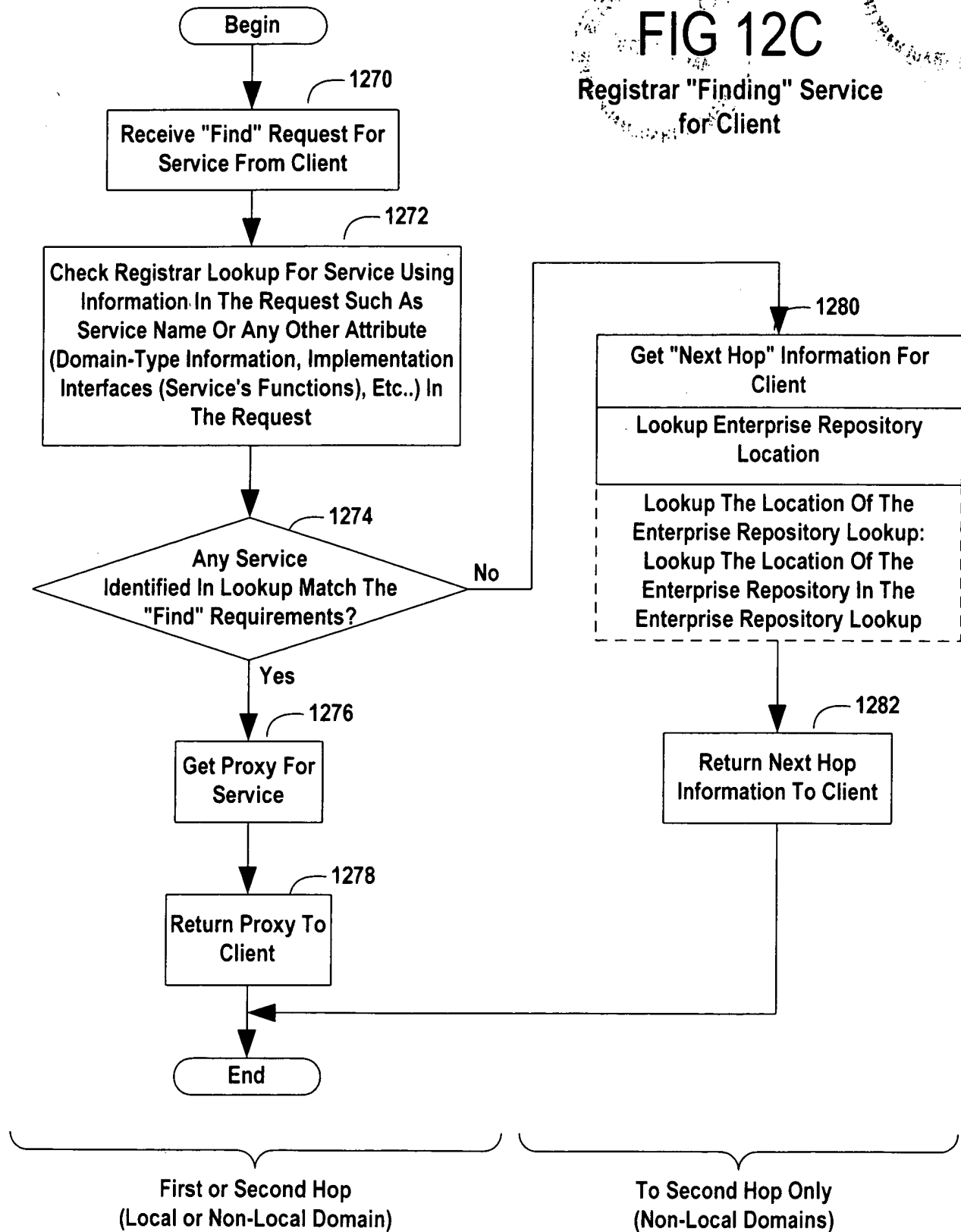


FIG 13A

Transaction Processing by
Transaction Manager

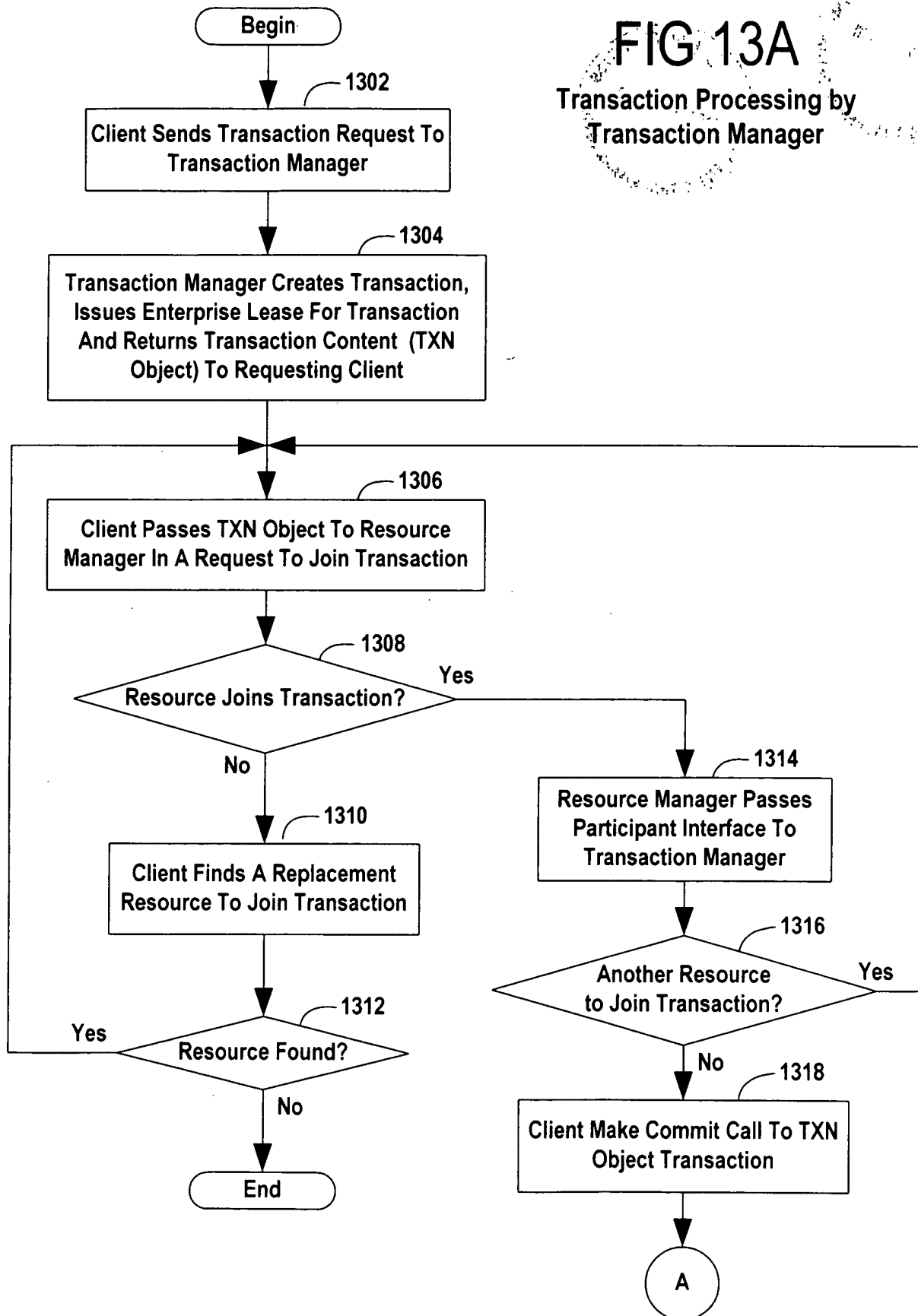


FIG 13B

Transaction Processing by Transaction Manager

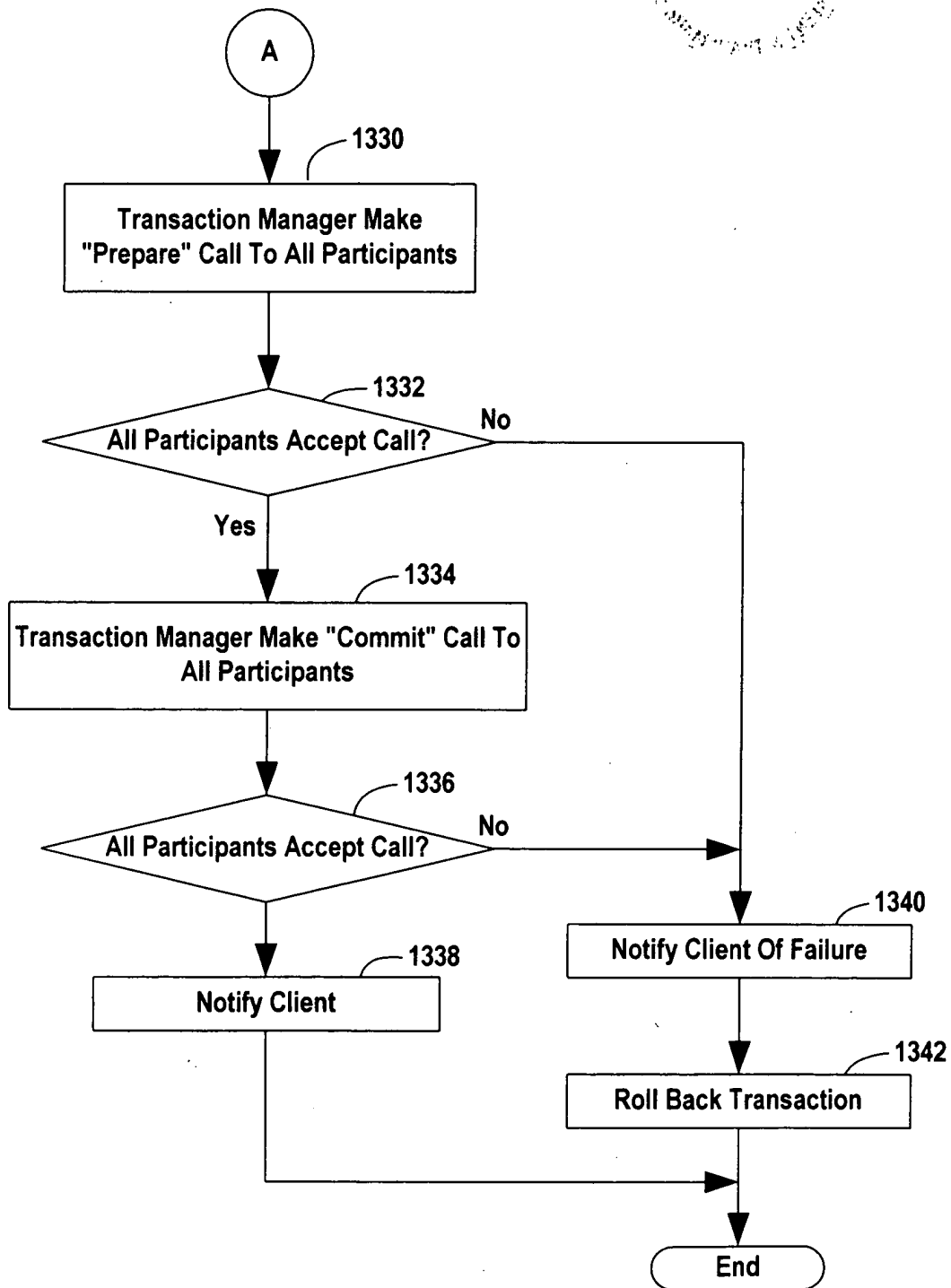


FIG. 14

Self-Healing

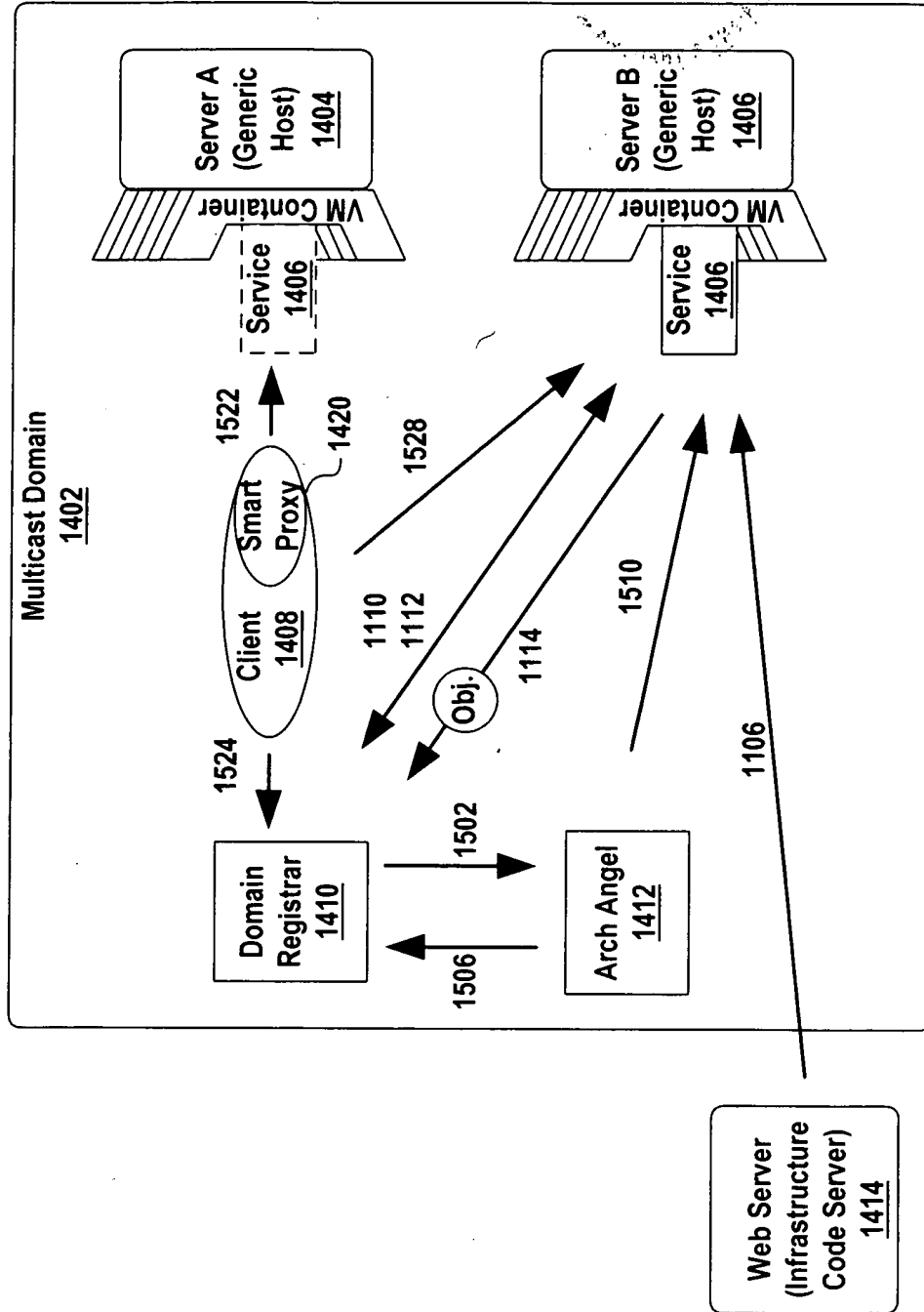


FIG 15A

Service Re-Starting Service

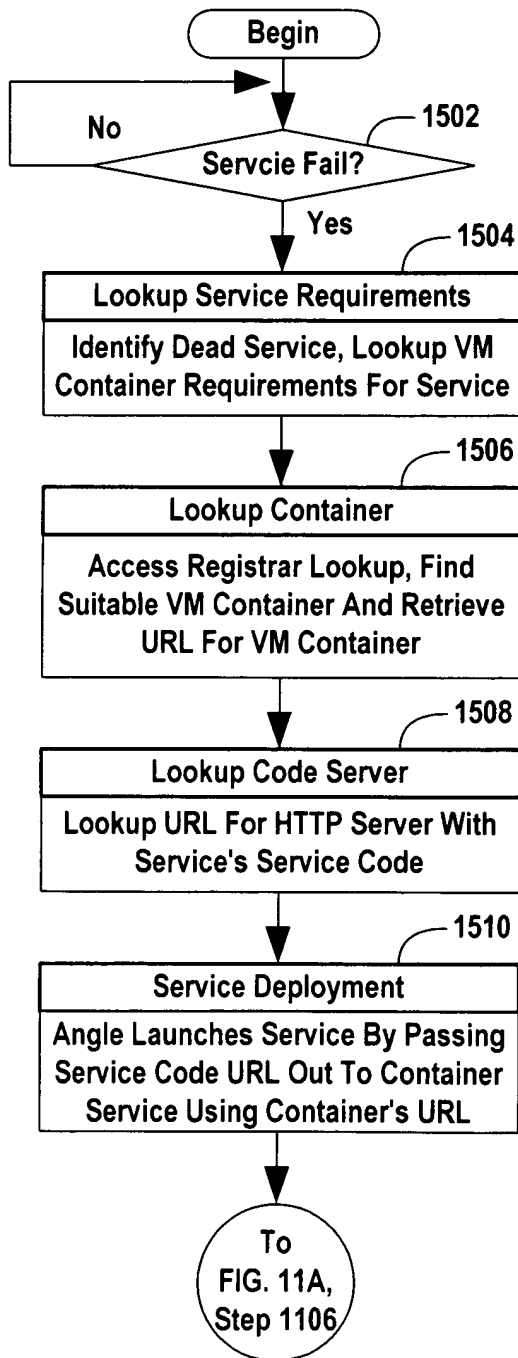


FIG 15B

Self-Healing Proxy References

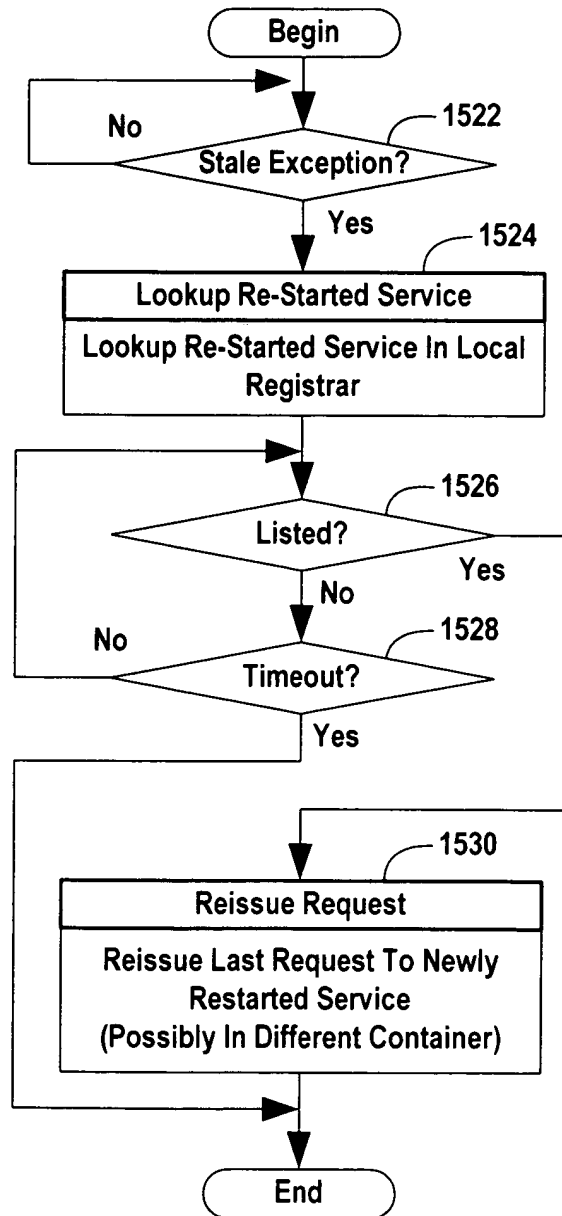


FIG. 16

Two Tiered DataBus

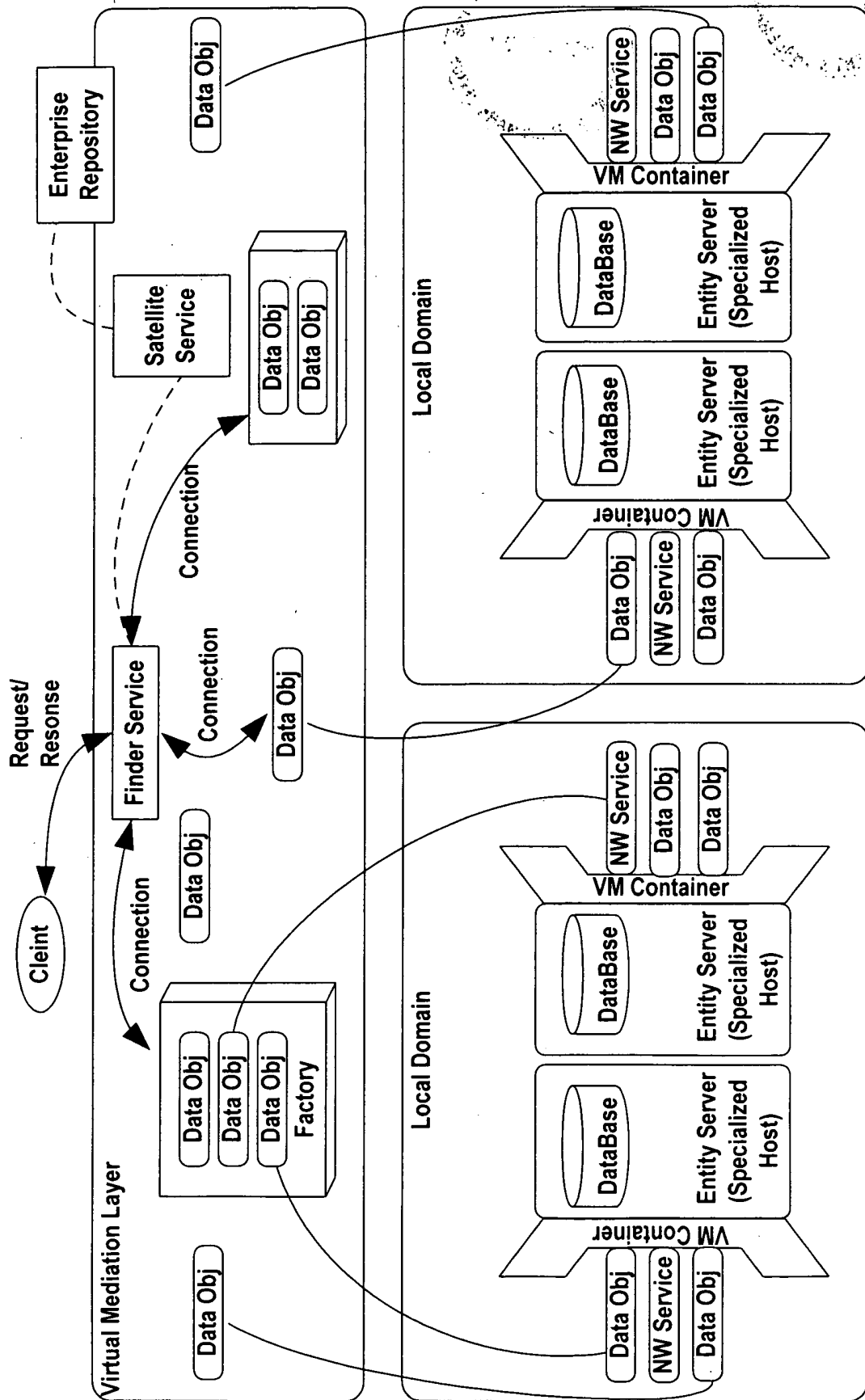


FIG. 17A

Entity-Relationship Model

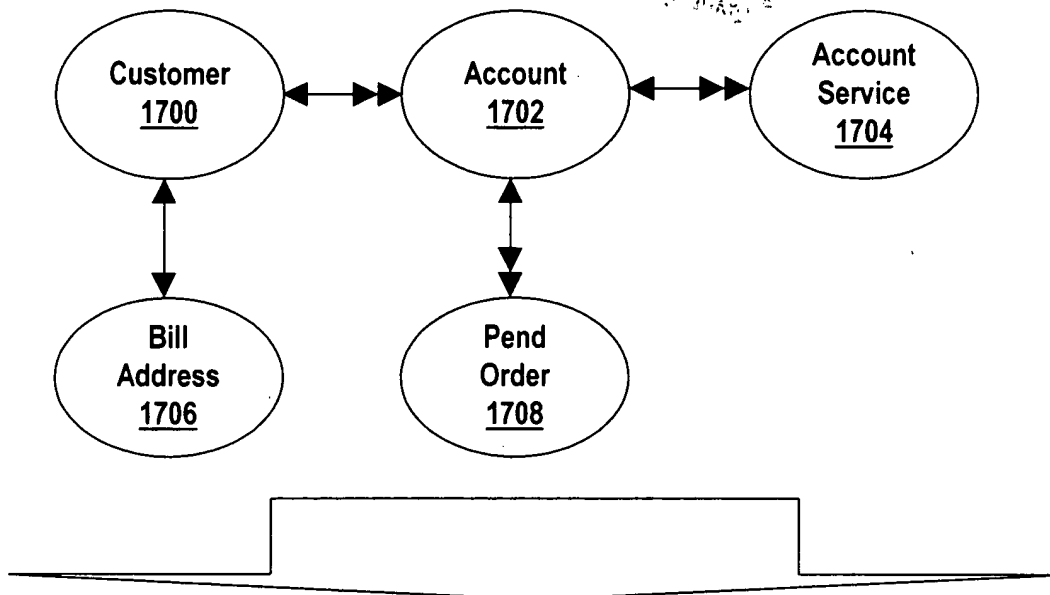


FIG. 17B

Entity and Associations Mapped to Engines

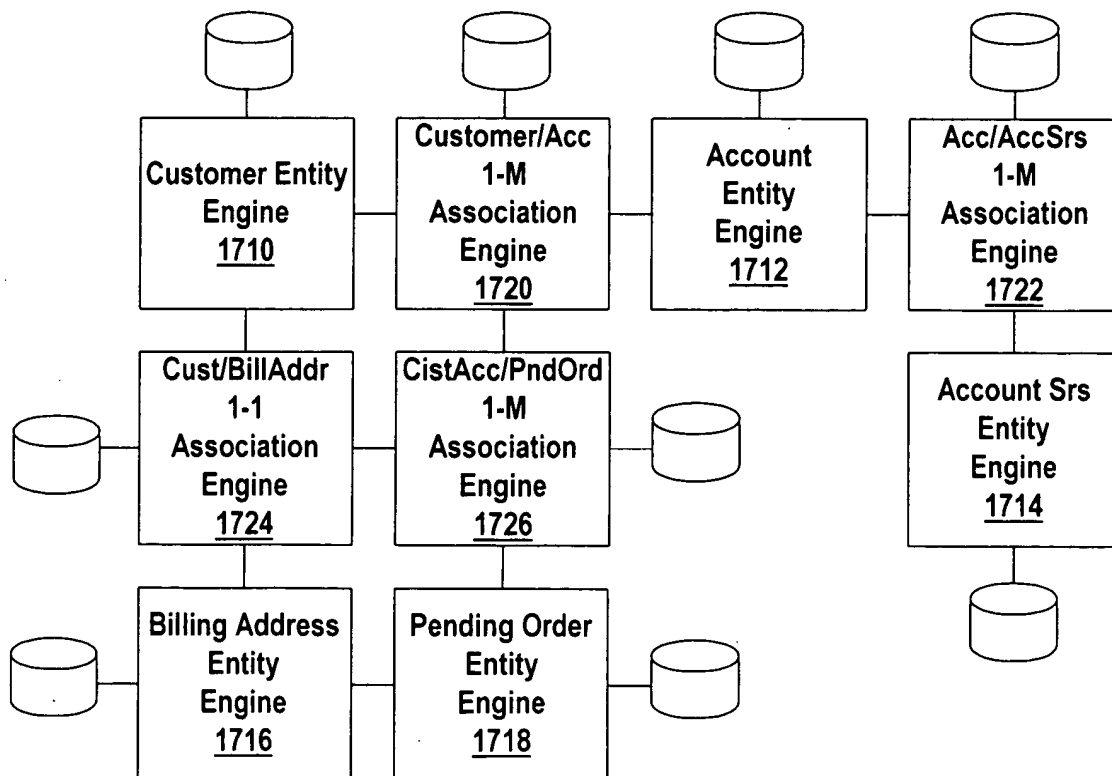


FIG. 18

Partitioning of Entities Across Separate
Storage Servers

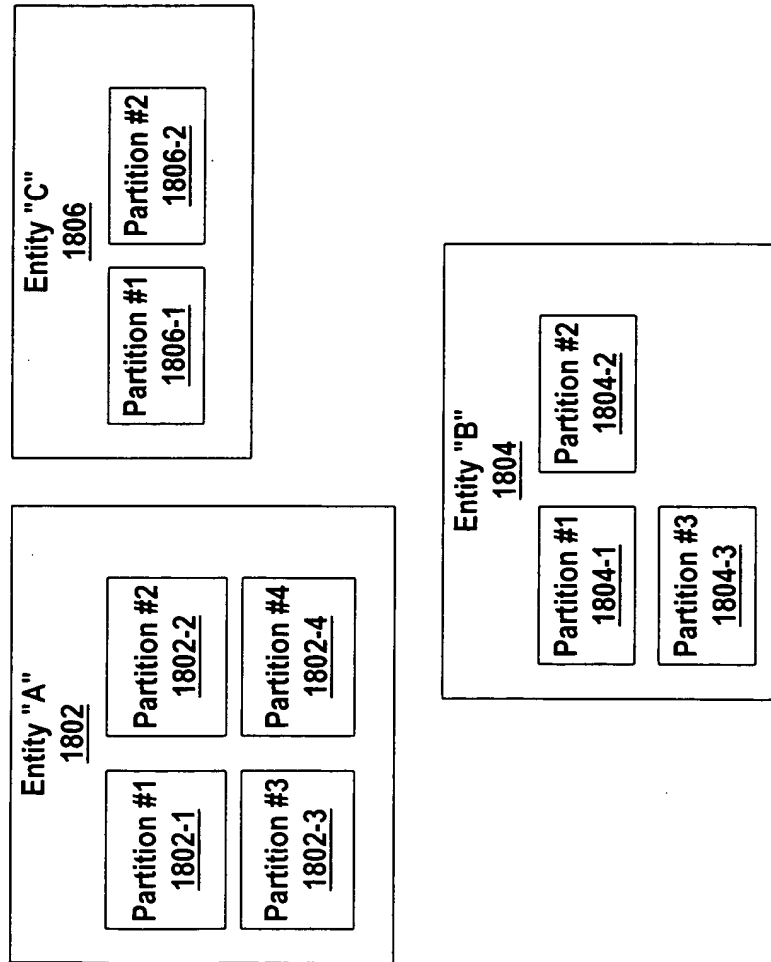


FIG. 19

Partitioning of Containers and Storage

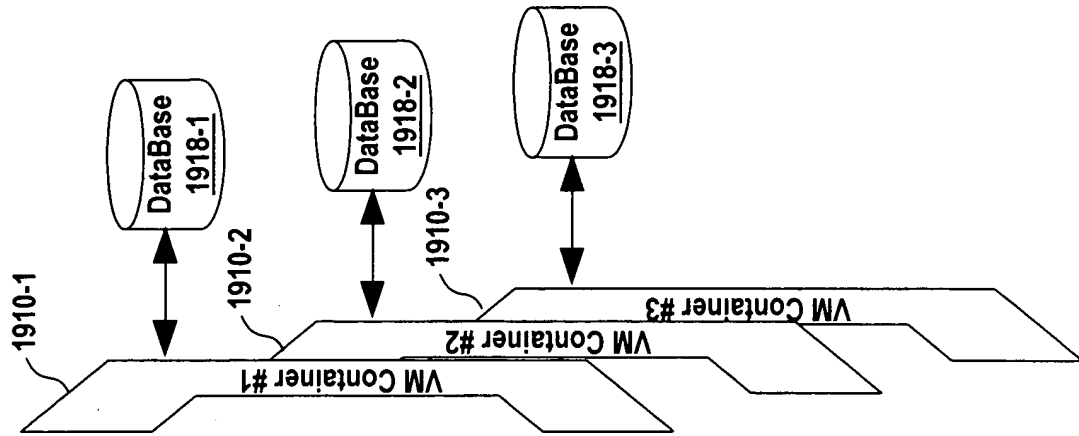


FIG. 20

Create Entity Instance in Partition

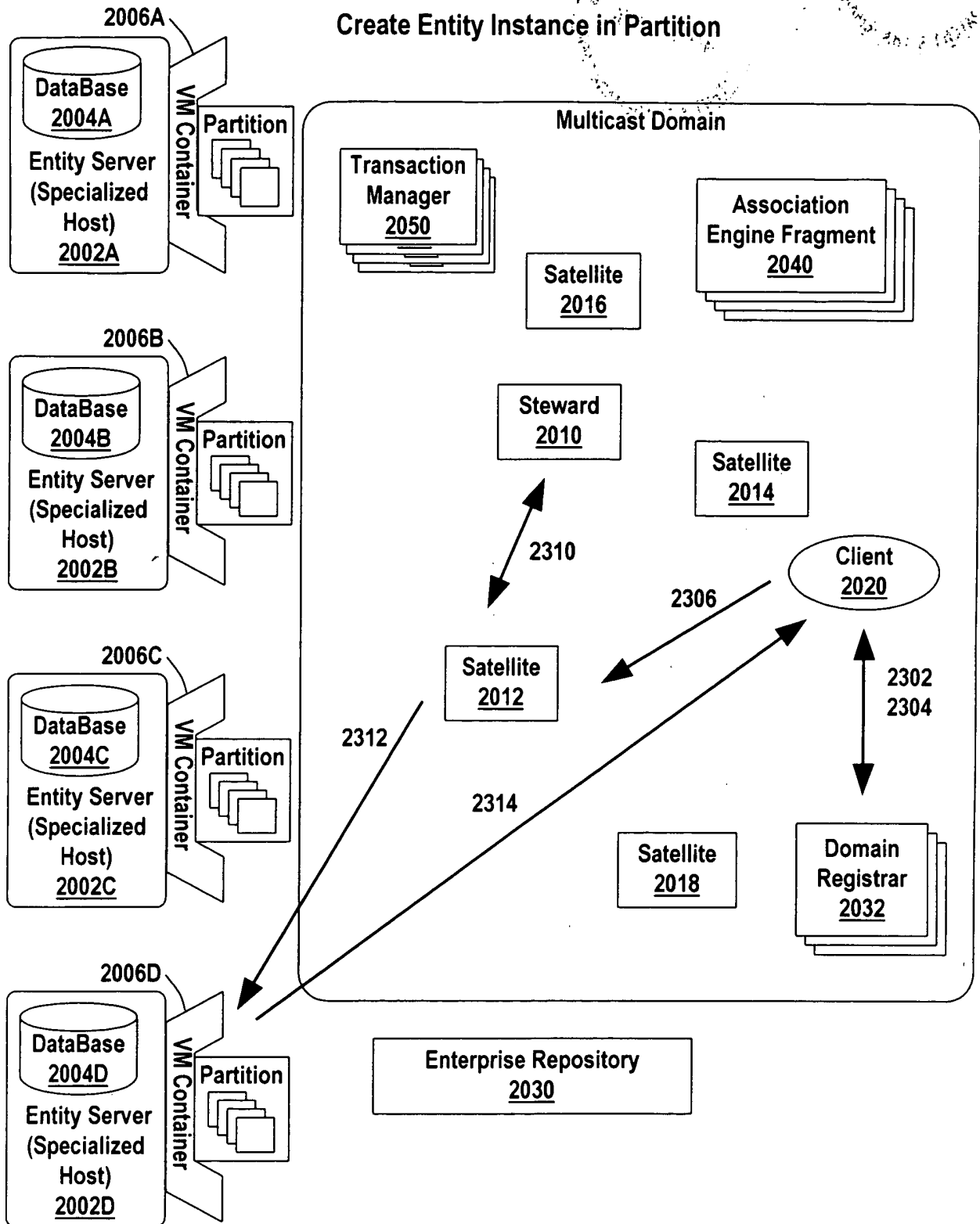


FIG 21

Create Entity Instance in Partition

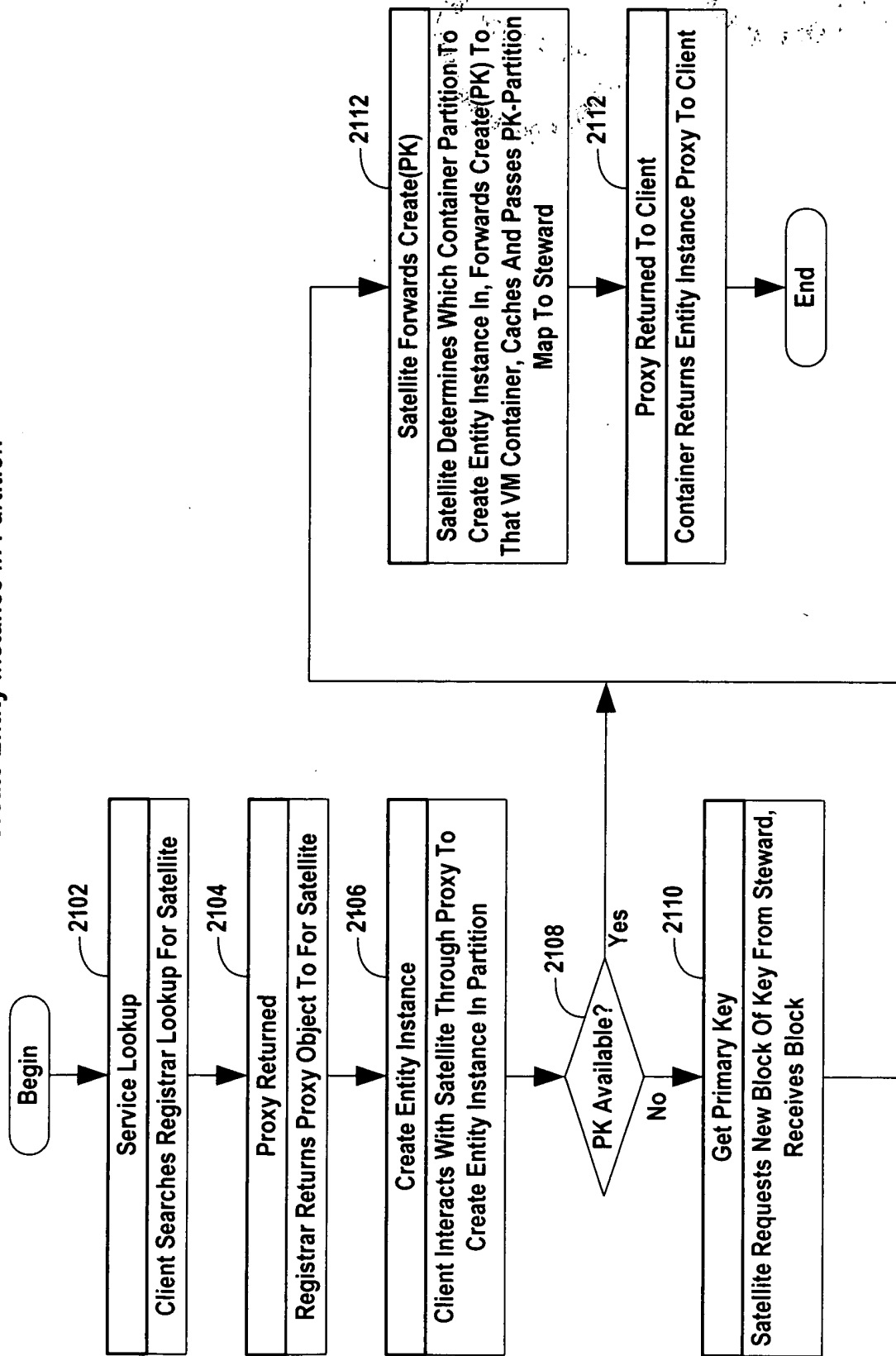


FIG. 22

Steamed Out Read/Write Copy
Approach

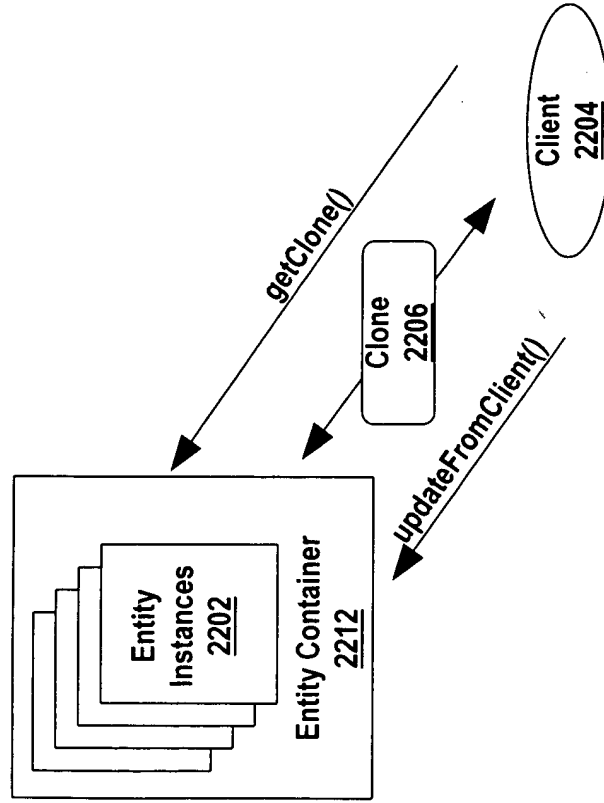


FIG. 23

Cache Server Approach

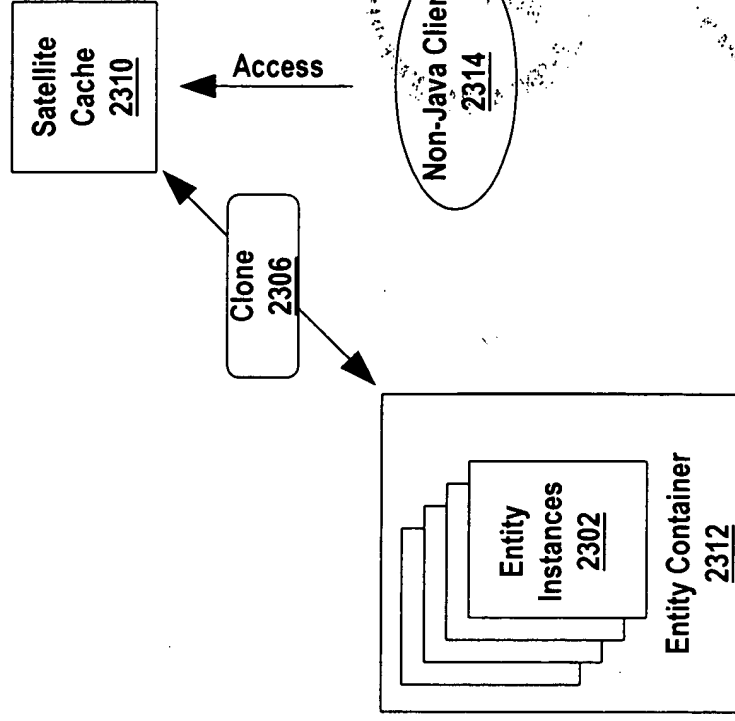


FIG. 24

Event Notification to Read Only Copies

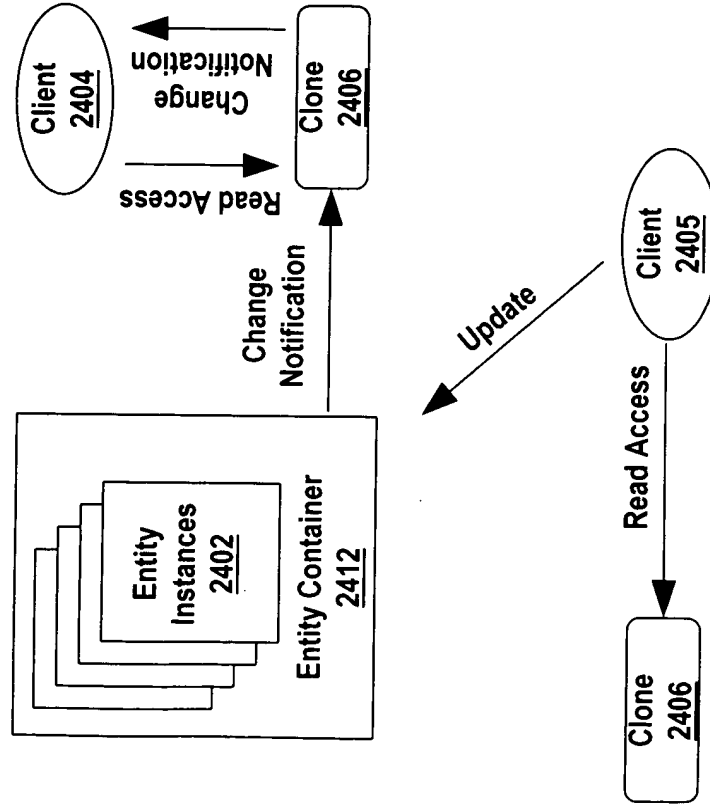


FIG. 25

Optimistic Concurrency Control with Read/Write Copies

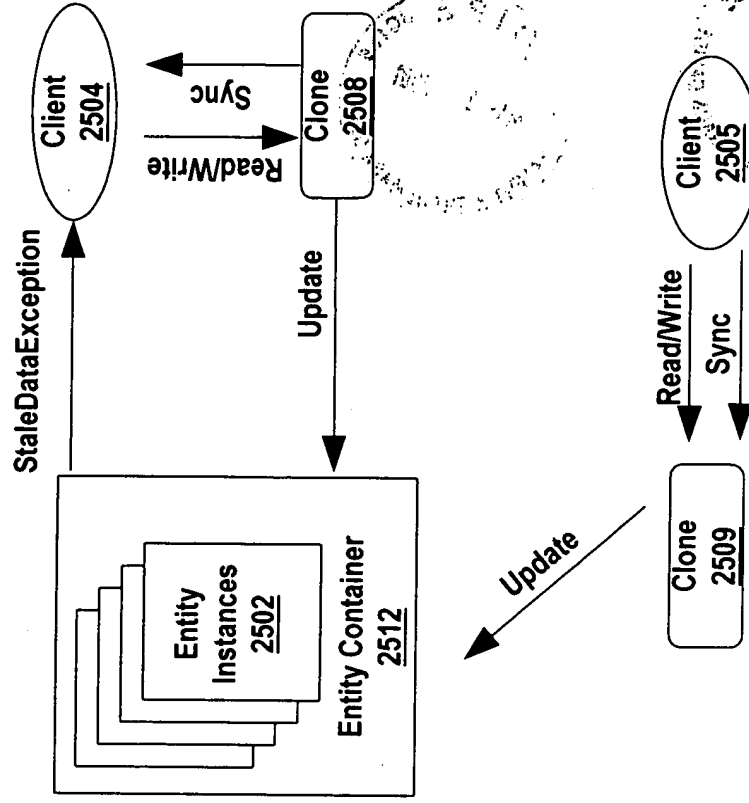
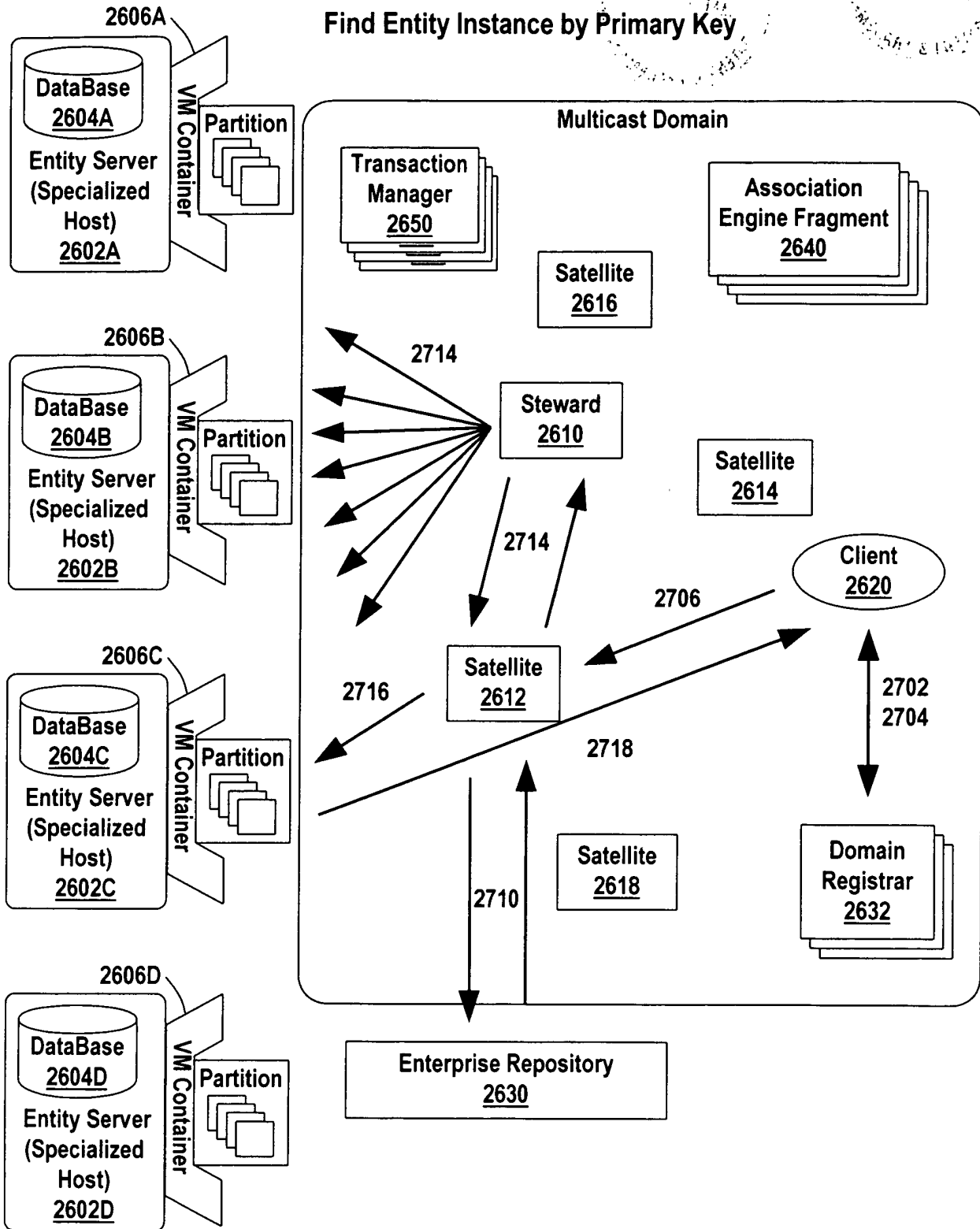


FIG. 26

Find Entity Instance by Primary Key



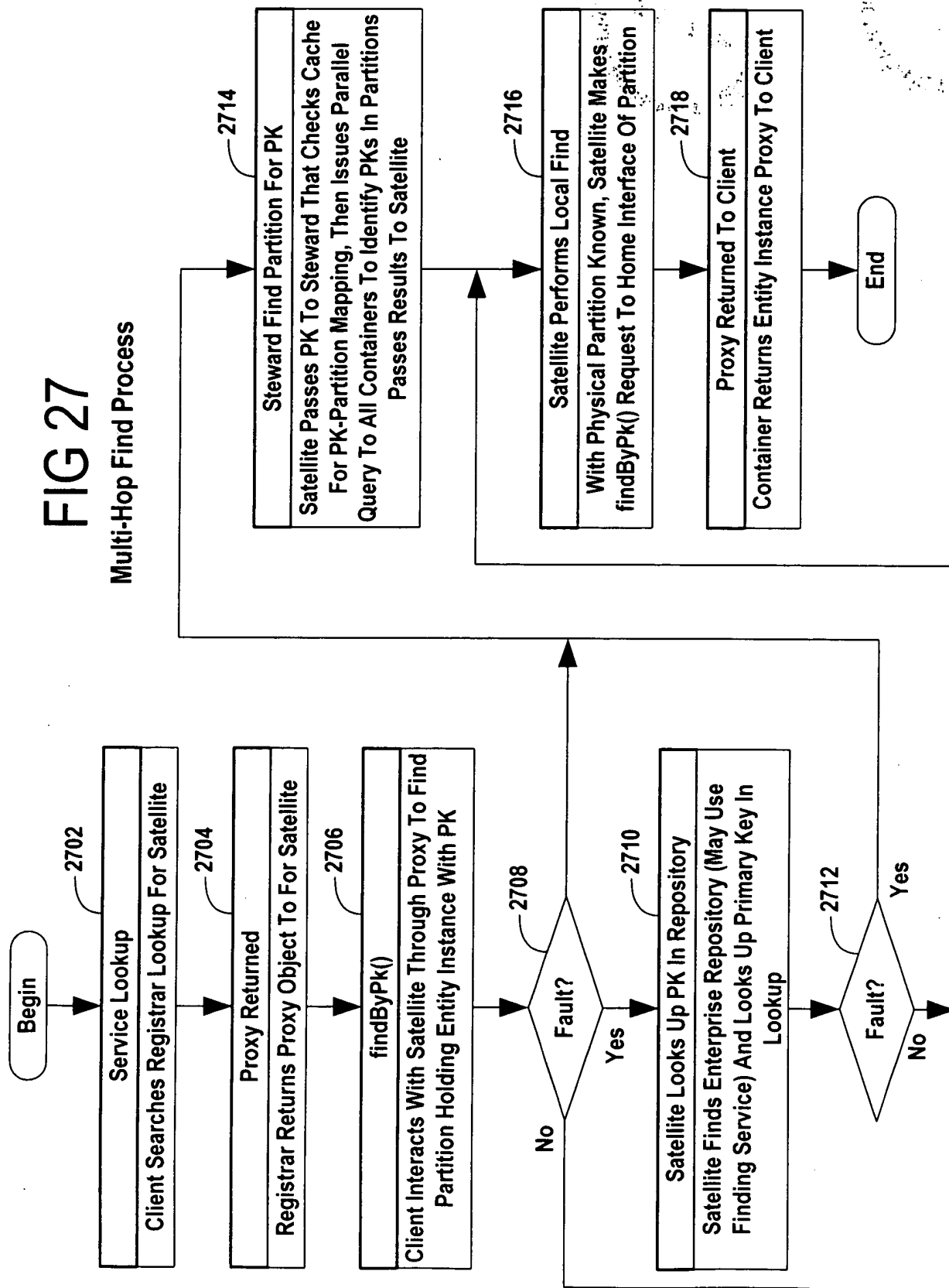


FIG. 28

Logical Domains

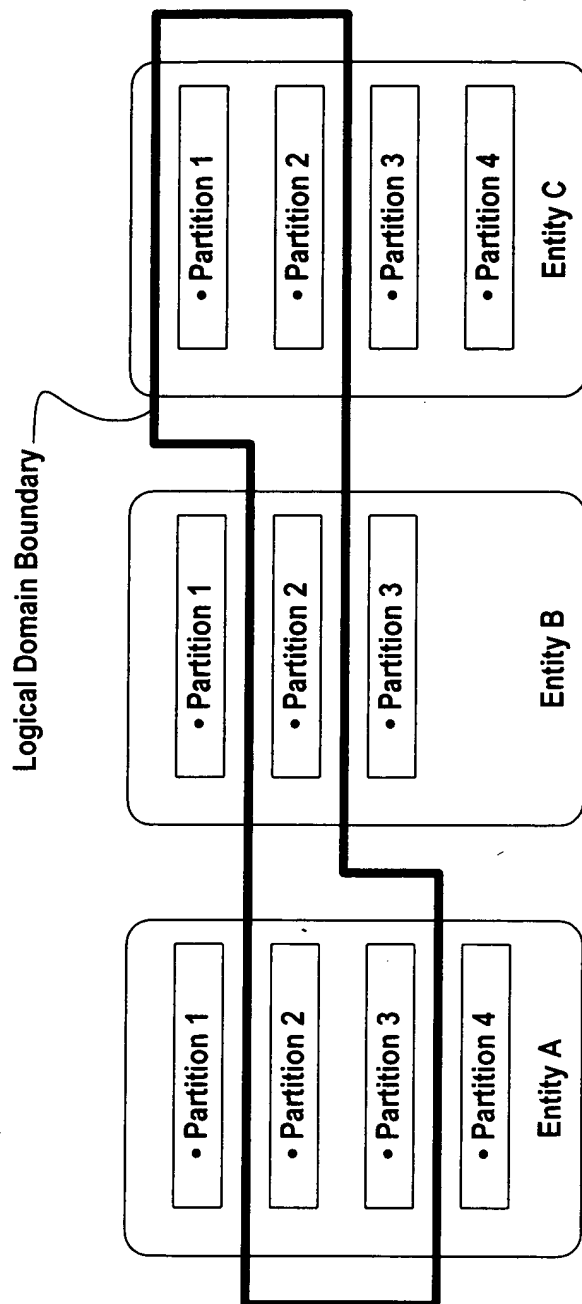


FIG. 29

External Association Service

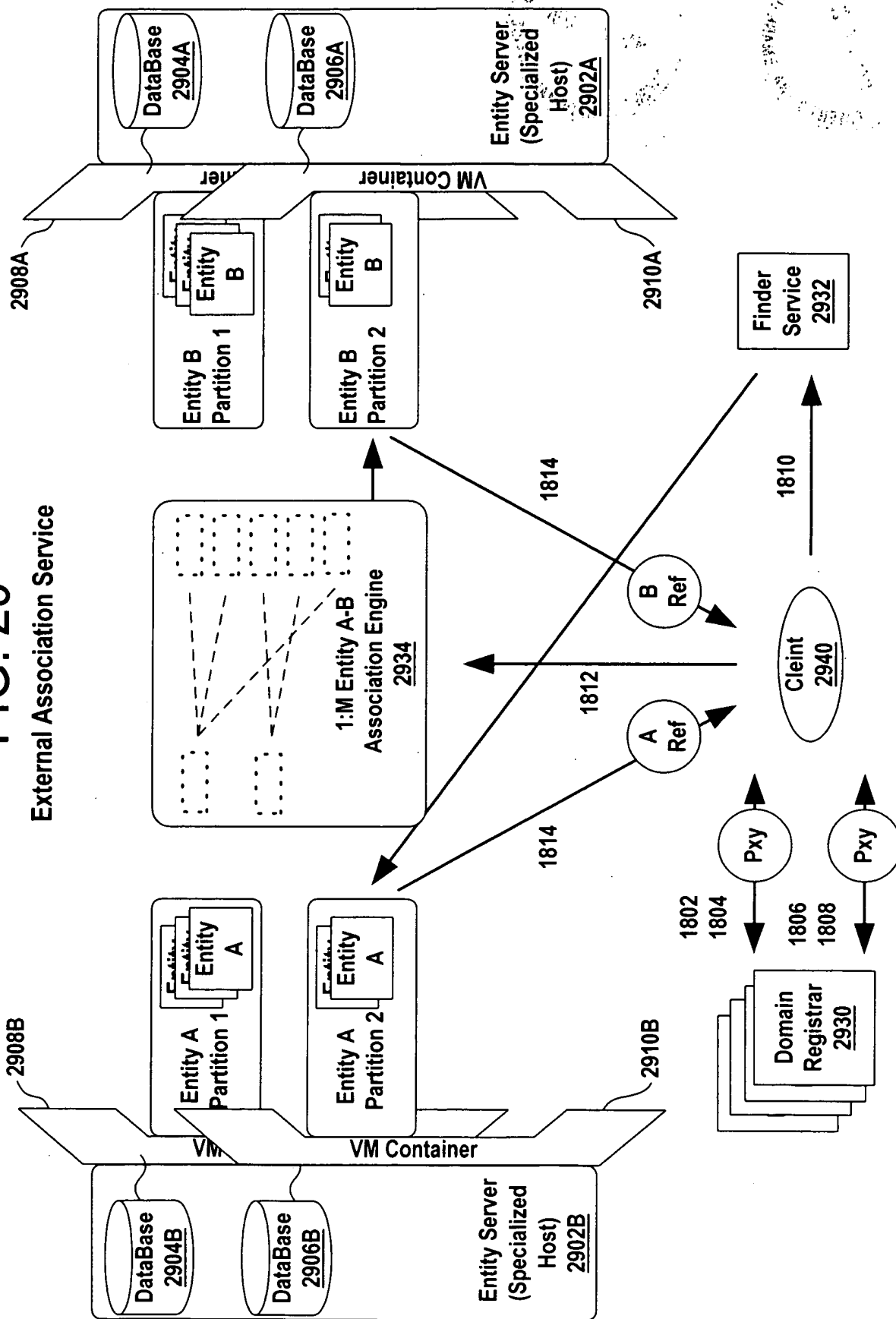


FIG 30

Finding Entity Associations for an Entity
Instance Through its Primary Key

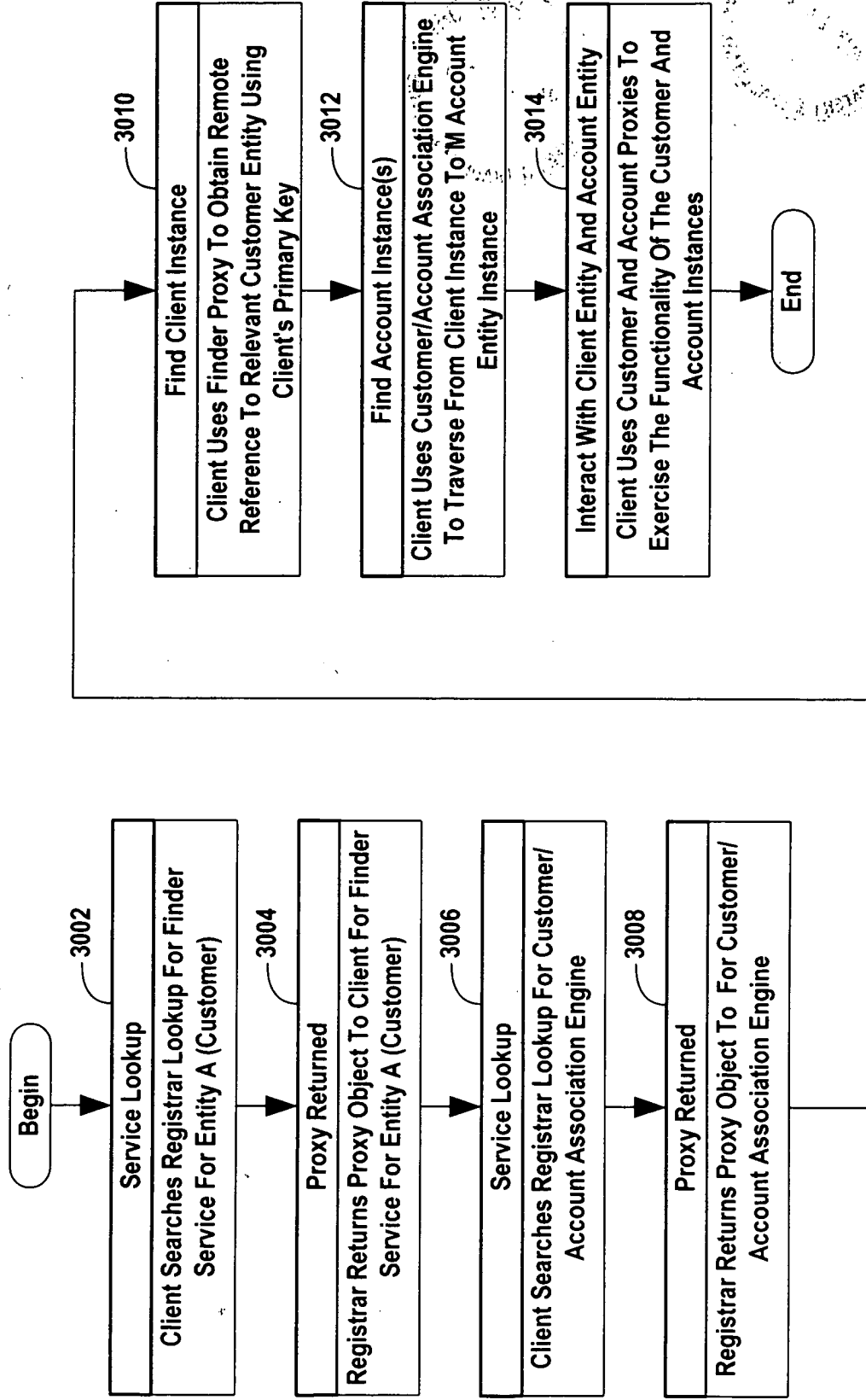
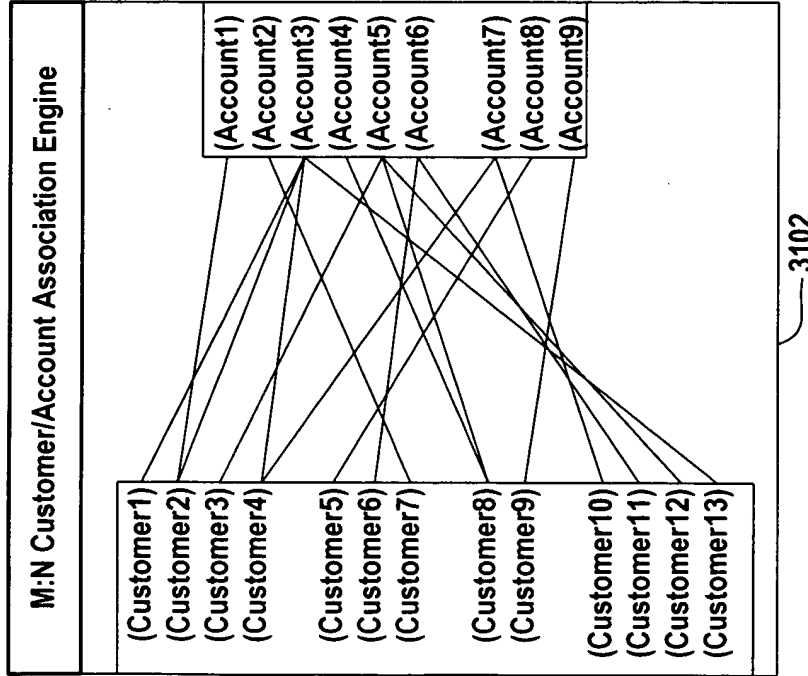


FIG. 31

Fragmenting an Entity Association Engine By Partition



<u>Customer Partition 1</u> 1:M Customer/Account Association Engine Fragment
(Customer1) - 1:(Account3)
(Customer2) - 1:(Account1)
- 1:(Account3)
(Customer3) - 1:(Account4)
(Customer4) - 1:(Account3)
- 2:(Account8)

3112

<u>Customer Partition 2</u> 1:M Customer/Account Association Engine Fragment
(Customer5) - 2:(Account8)
(Customer6) - 1:(Account6)
(Customer7) - 1:(Account2)

3114

<u>Customer Partition 3</u> 1:M Customer/Account Association Engine Fragment
(Customer8) - 1:(Account4)
1:(Account5)
(Customer9) - 2:(Account9)

3116

<u>Customer Partition 4</u> 1:M Customer/Account Association Engine Fragment
(Customer10) - 2:(Account7)
(Customer11) - 1:(Account6)
(Customer12) - 1:(Account5)
(Customer13) - 1:(Account3)

3118

<u>Account Partition 1</u> 1:M Account/Customer Association Engine Fragment
(Account1) - 1:(Customer2)
(Account2) - 2:(Customer7)
(Account3) - 1:(Customer1)
- 1:(Customer2)
- 1:(Customer4)
- 4:(Customer13)
(Account4) - 3:(Customer8)
(Account5) - 1:(Customer3)
- 1:(Customer4)
- 4:(Customer12)
(Account6) - 2:(Customer6)
- 4:(Customer11)

3122

3124

<u>Account Partition 2</u> 1:M Account/Customer Association Engine Fragment
(Account7) - 1:(Customer4)
- 4:(Customer10)
(Account8) - 2:(Customer5)
(Account9) - 3:(Customer9)

FIG. 32

External Association Fragment Services

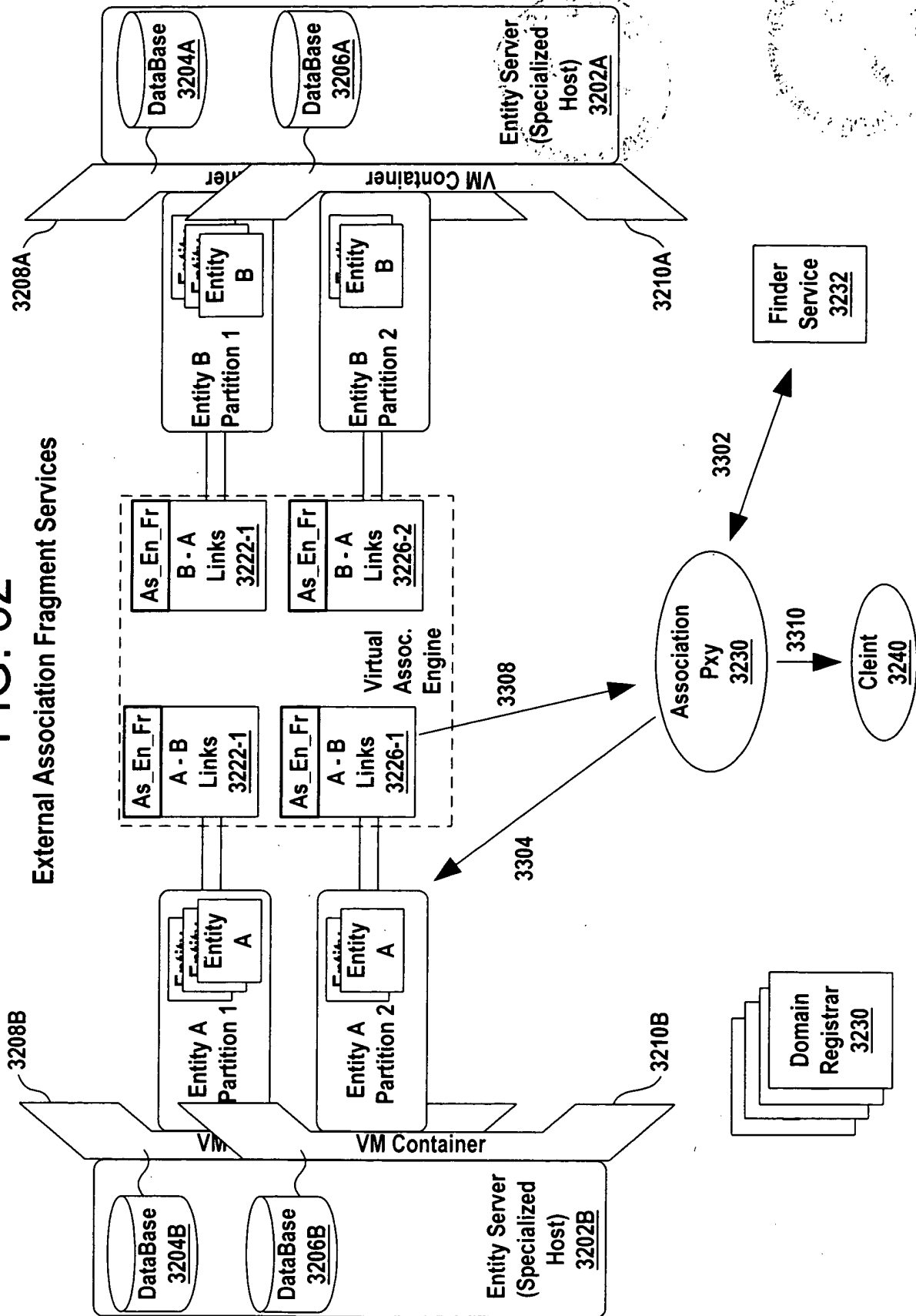


FIG. 33

**Get all Account Instances that Are Associated
with An Identified Customer Instance**

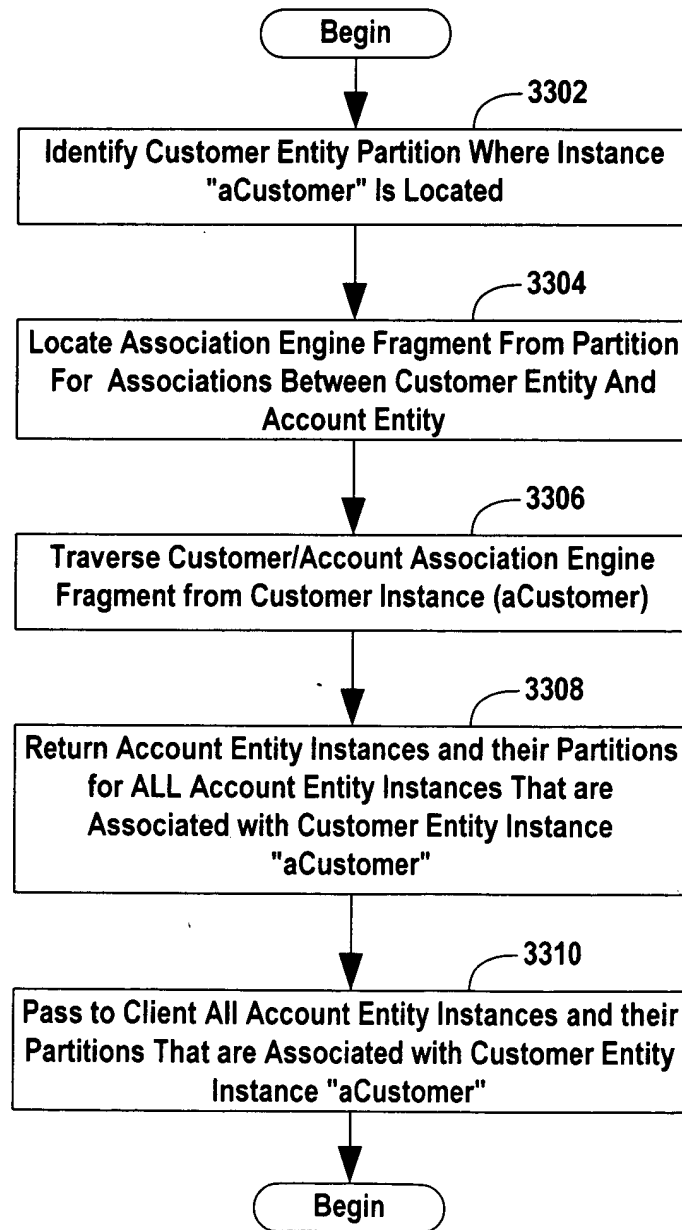


FIG. 34

**Get all Account Instances that Are Associated
with An Identified Customer Instance**

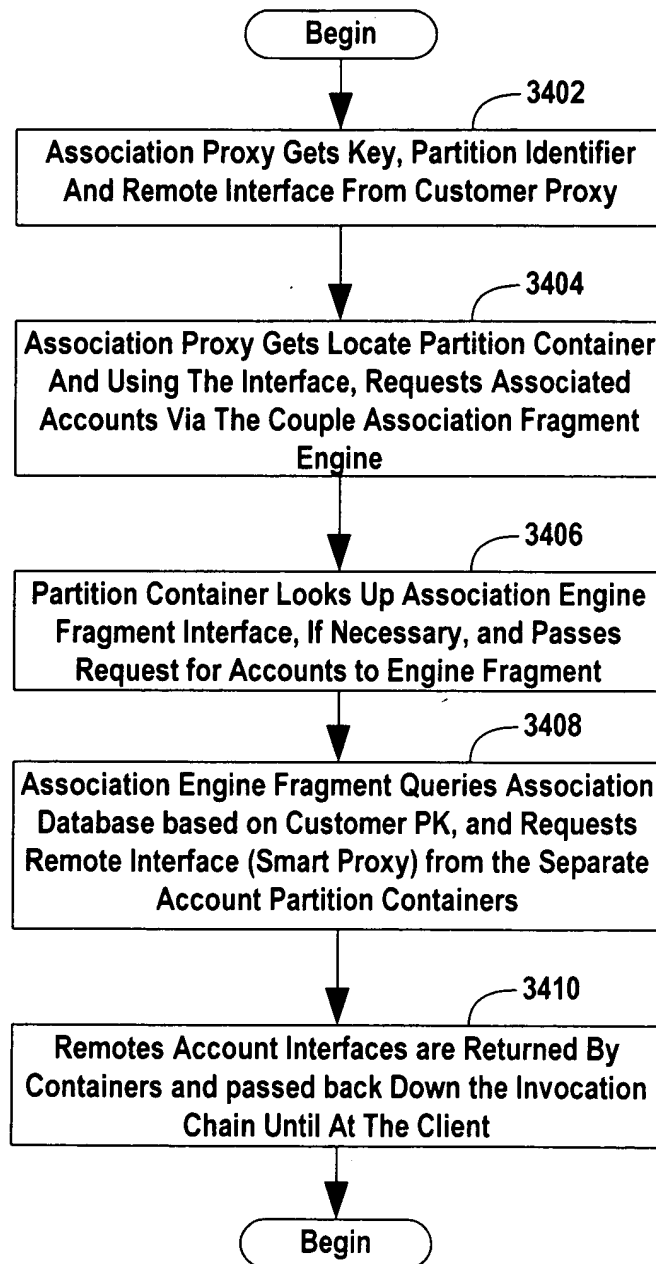


FIG. 35

MOC AND NewWave Services

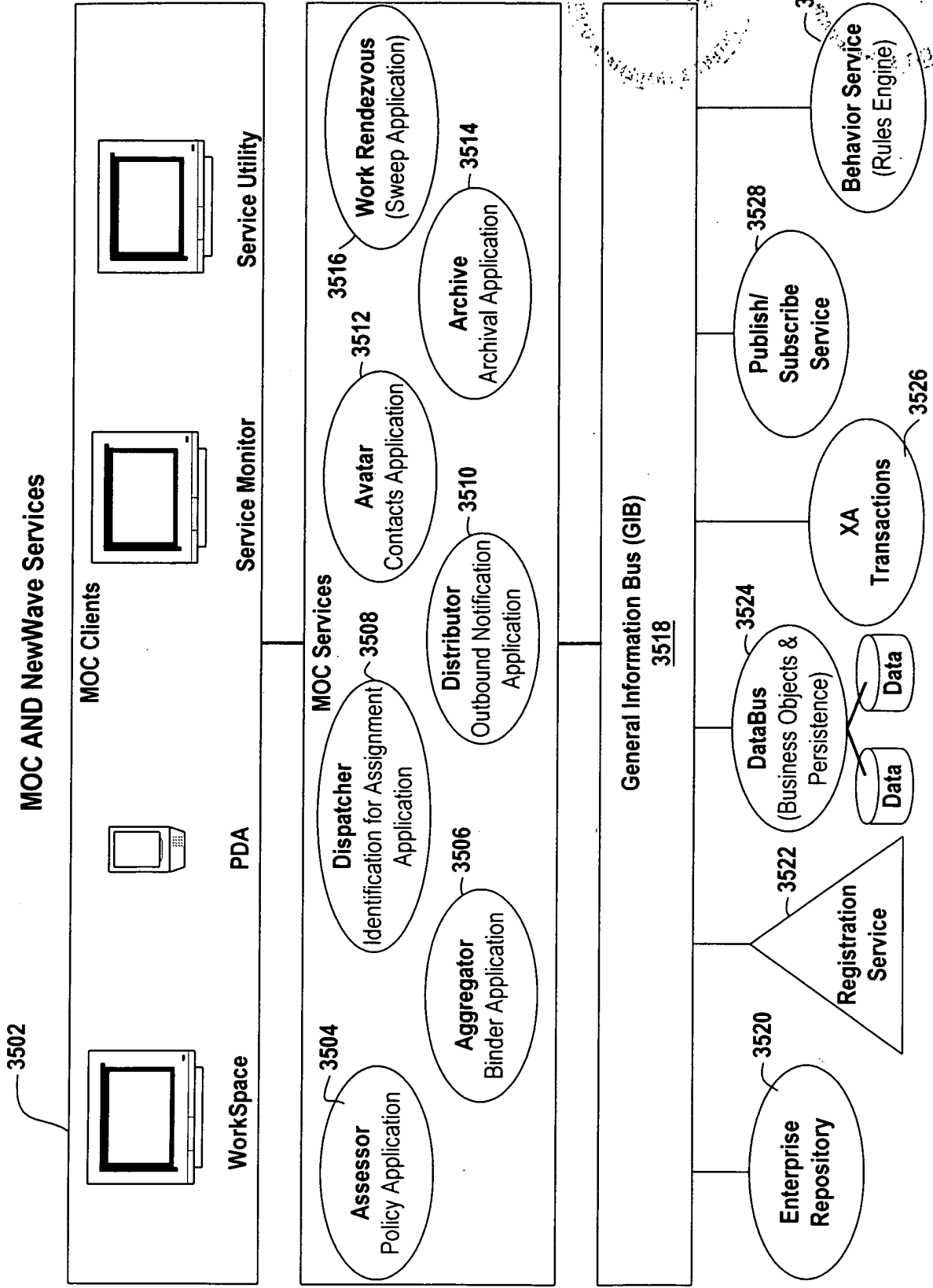


FIG. 36

Management Operations Center

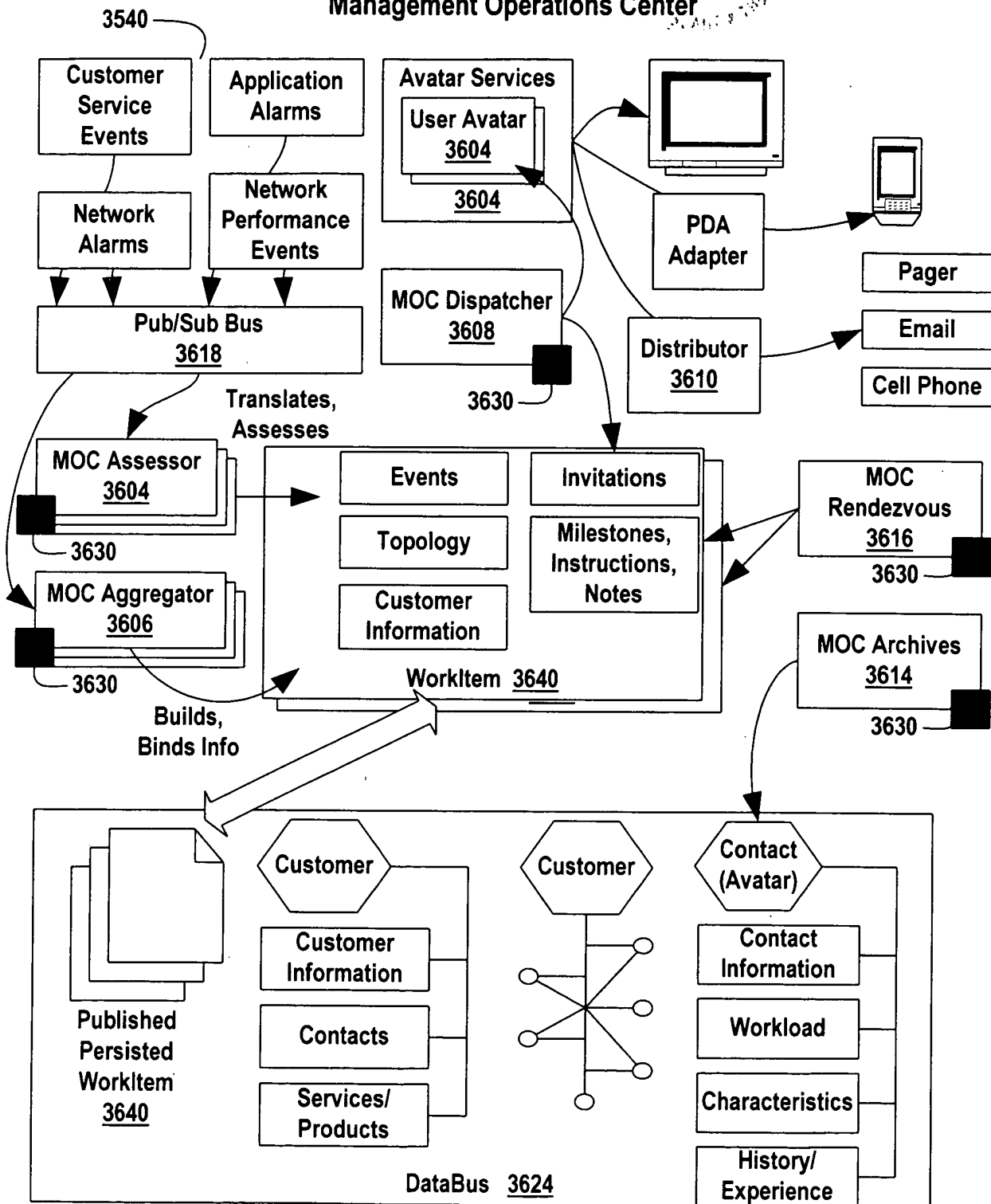


FIG. 37

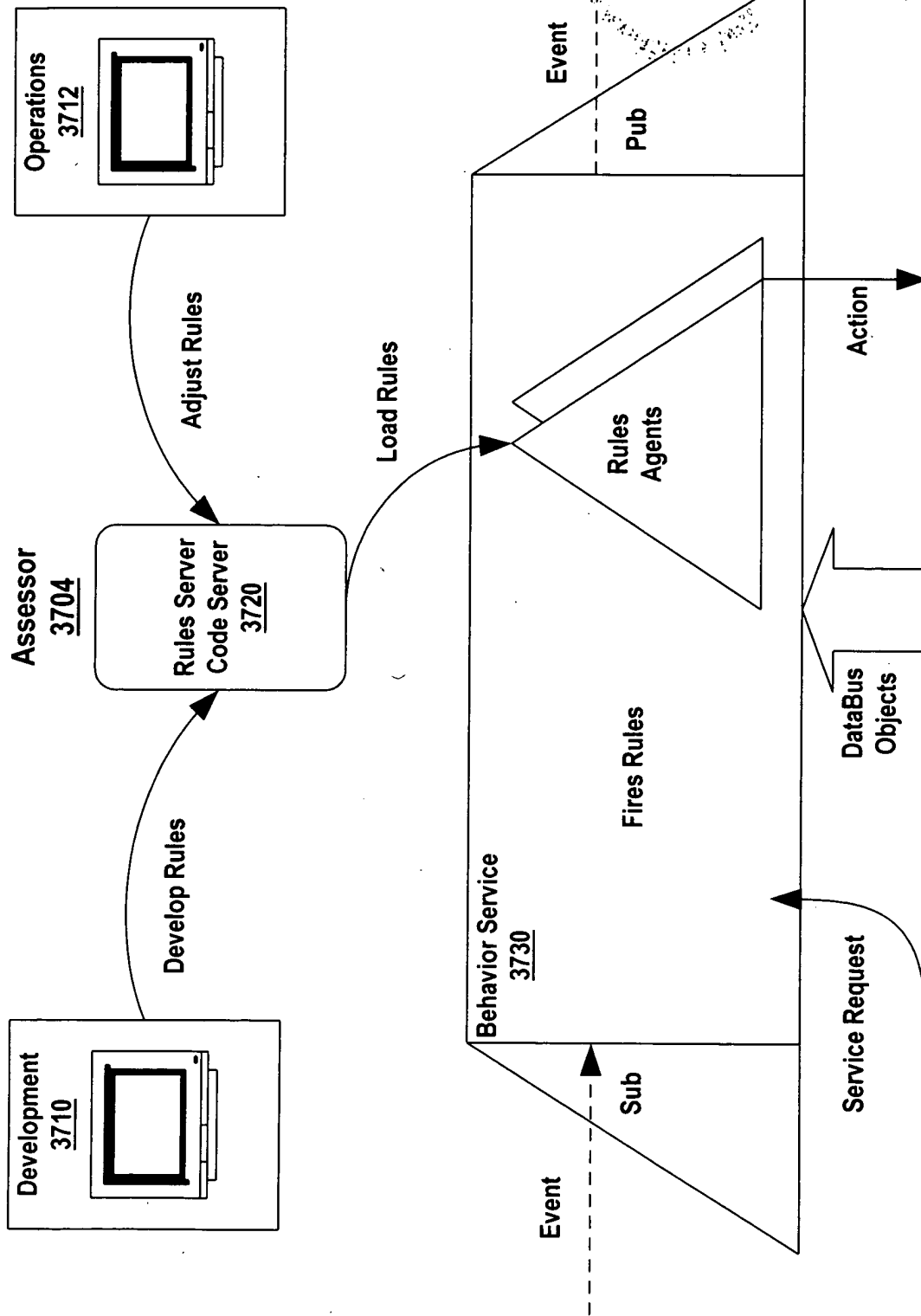


Fig. 38

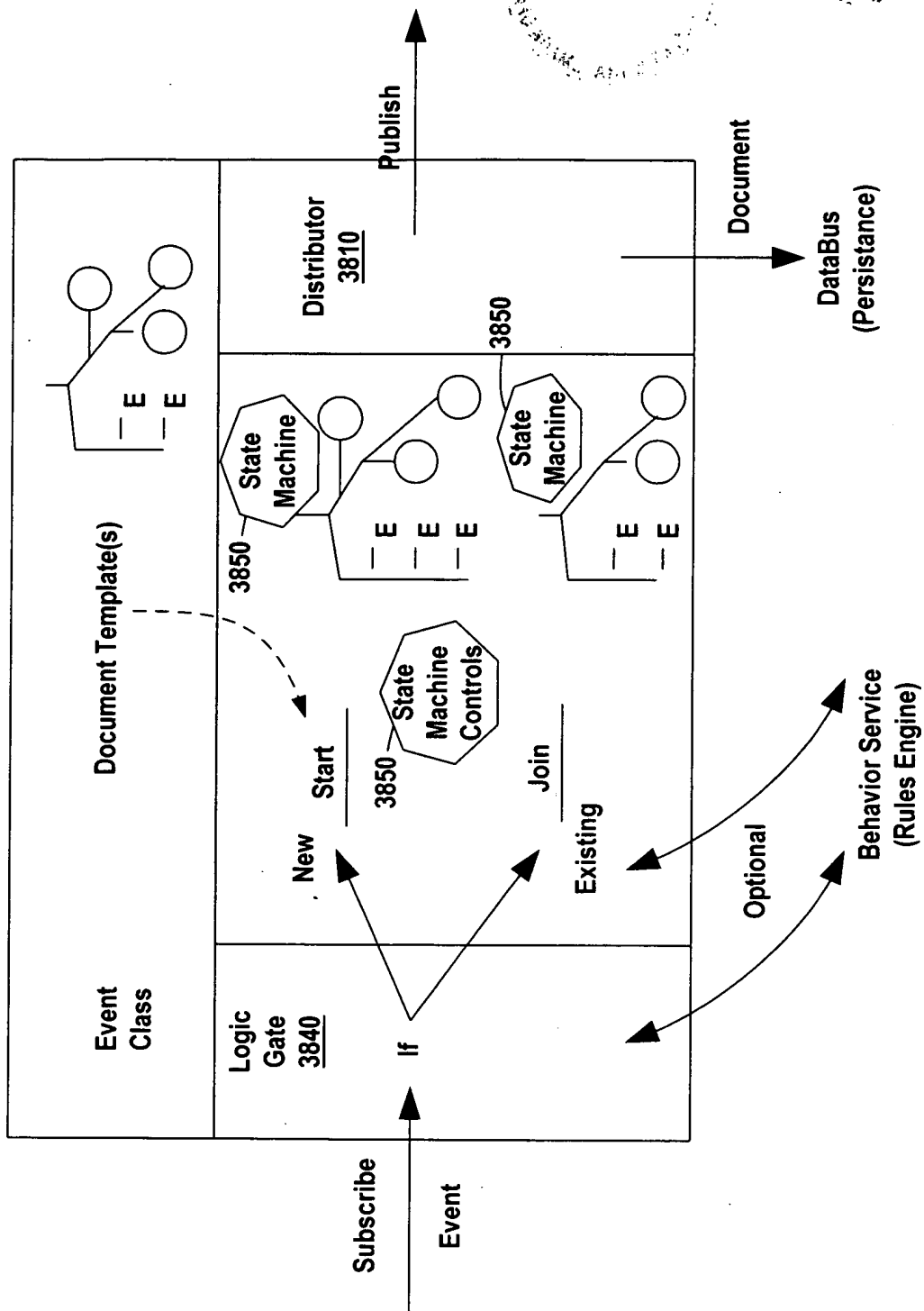
Aggregator
3808

Fig. 39
MOC State Machine
3940

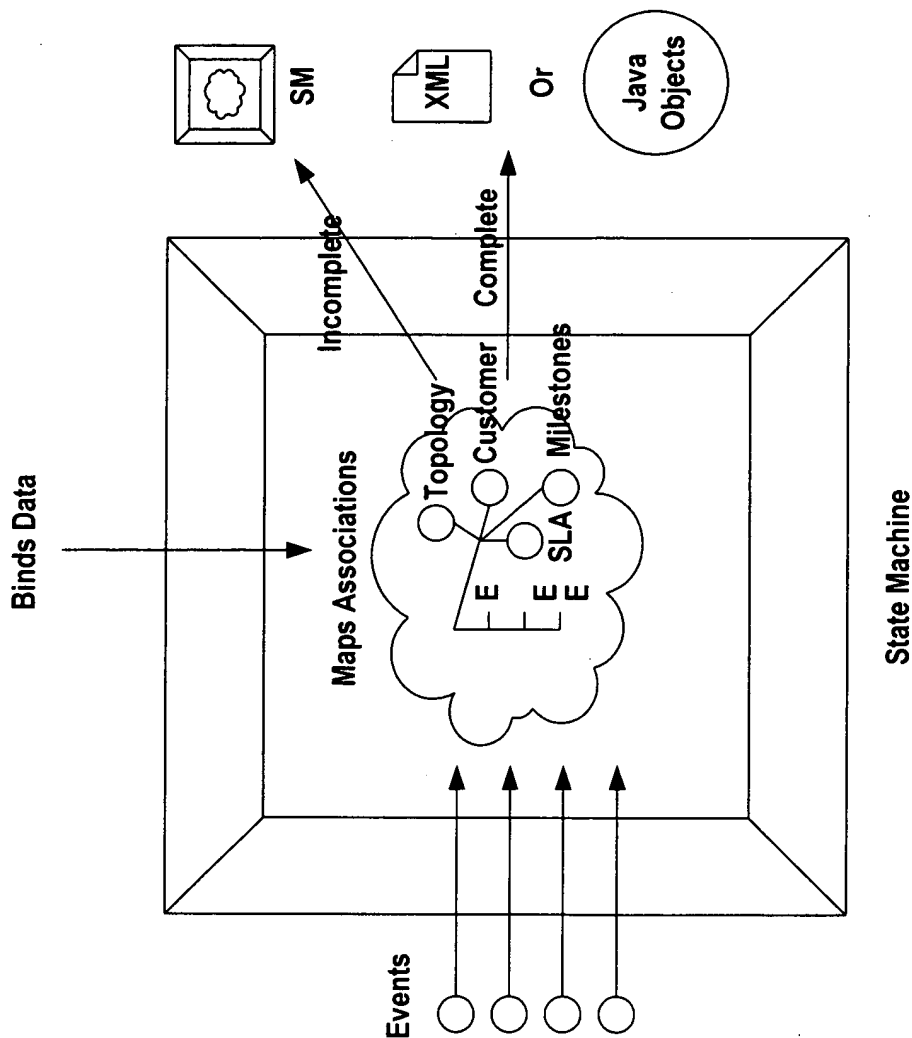


Fig. 40
User Avatar Lookup

